Clinical Case Registries (CCR)

Installation & Implementation Guide

Version 1.5

Documentation Revised July 2009
For Patch ROR*1.5*8

Department of Veterans Affairs
Office of Enterprise Development
Health Data Systems – Registries

Revision History

Date	Description	Author
July 2009	Updated for Patch ROR*1.5*8. General formatting. Checked and updated external links. Eliminated references to v1.0 GUI unless required to distinguish functionality between versions. Added instructions to meet all known installation circumstances.	VJ McDonald Victor Carr Angela Saunders Ed Micyus
February 2006	Fully updated for v 1.5	Sergey Gavrilov

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1. Introduction

This *Clinical Case Registries Installation & Implementation Guide* provides assistance for installation and implementation of the Clinical Case Registries (CCR) software.

1.1 How CCR Works

CCR uses pre-defined selection rules that identify patients with possible Hepatitis C and/or HIV (such as a disease-related ICD-9 code or a positive result on an antibody test) and adds them to the registry in a pending state. Pending patients are reviewed by the local registry coordinator and if the data confirm the diagnosis, the local registry coordinator confirms the patient in the registry.

Each night a background process transmits a set of predefined data via HL7 to the national CCR database at the Corporate Data Center Operations (CDCO). Data from both the Hepatitis C and HIV registries are aggregated in the same message. If there is more new data than is allowed by the registry parameter for a single CCR HL7 batch message (the current limit is 5 megabytes), the software will send several messages during a single night. The CCR software creates a limited set of database elements to be stored locally in the VistA system, and focuses on assuring that the local listing is complete and accurate, that the desired data elements are extracted, and that data elements are appropriately transmitted to the national database.

Data from the registries is used for both clinical and administrative reporting on both a local and national level. Each facility can produce local reports which show information related to patients seen in their system. Reports from the national database are used to monitor clinical and administrative trends, including issues related to patient safety, quality of care and disease evolution across the national population of patients.

1.2 Recommended Users

The Information Resource Management (IRM) staff and CCR Automated Data Processing Application Coordinator (ADPAC) are required for the installation of CCR.

1.3 Related Documents

- *Clinical Case Registries Release Notes*
- *Clinical Case Registries Technical Manual/Security Guide*
- *Clinical Case Registries User Manual*

1.4 Typographical Conventions Used in the Guide

Fonts and other conventions shown in Table 1 are used throughout this document. Conventions for the use of graphic icons and other symbols are shown in Table 2. Also see Screen Displays and Text Notes for explanations of how computer dialogs are presented.

Table 1 – Typographical Conventions

Font	Used for…	Examples:
Blue text, underlined	Hyperlink to another document or URL	ftp.fo-slc.med.va.gov
Green text, dotted underlining	Hyperlink to a place in this document	"CCR accesses several other Veterans Health Information Systems and Technology Architecture (VistA) files…"
Courier New	Patch names	`ROR*1.5*2`
	VistA menu options	`ACL - Re-index the ACL cross-reference`
	VistA filenames	`XYZ file #798.1`
	VistA field names	`COMMENT field (#12).`
Franklin Gothic Demi	Keyboard keys	**< F1 >, < Alt >, < L >, [Enter]**
Green text, dotted underlining	Hyperlink within this document	See CCR Patches ROR*1.5*X for details.
Microsoft Sans Serif	Software Application names	Clinical Case Registries (CCR)
	Registry names	CCR:HIV
	GUI database field names	Comment field
	GUI report names	Procedures report
Microsoft Sans Serif bold	GUI panel, pane, tab, button and command icon names	**Other Registries** panel **[Delete]** button
Times New Roman	Normal text	"… designed for use by designated Registry Coordinators, Managers, and Clinicians…."
Times New Roman Italic	Text emphasis	"It is *very* important…"
	National and International Standard names	*International Statistical Classification of Diseases and Related Health Problems*
	Document names	*Clinical Case Registries User Manual*

Table 2 – Graphical Conventions

Graphic	Used for…
	Information of particular interest regarding the current subject matter
	A tip or additional information that may be helpful to the user
	A warning concerning the current subject matter

1.5 Screen Displays and Text Notes

In this guide, user responses are shown in **`bold type`**, but do not appear on the screen as bold. The bold part of the entry is the letter, or letters, that you must type so that the computer can identify the response. In most cases, you only have to enter the first few letters. This increases speed and accuracy.

Every response you type must be followed by pressing the **[Return]** key (or **[Enter]** for some keyboards). In VistA screen shots, whenever the Return or Enter key should be pressed, you will see the symbol **<RET>**. This symbol is not shown but is implied if there is bold input.

Within the "roll'n'scroll" part of the system, Help frames may be accessed from most prompts by entering one, two, or three question marks (**?**, **??**, or **???**).

Within the examples of actual terminal dialogues, additional information about the dialogue may be shown. This information is enclosed in brackets, for example, *{type ward name here}*, and it does not appear on the screen.

Computer dialogues appear in `Courier` font.

Where graphical interface windows are mentioned, and the user is instructed to click an on-screen button, that button will be shown in **Arial bold** font enclosed in square brackets and/or with a graphic symbol. Example: "Click the **[Submit]** button" or "Click the  button."

All headings and text in this guide are intentionally formatted flush left, regardless of the heading level, to save space and to make for better readability.

In tables which list mandatory steps (as for installation or uninstallation), a column is provided at the right-hand side so that users may check (✔) off the step as it is performed.

1.6 Software and Manual Retrieval

Both the CCR 1.5 software distributives and documentation files are available for downloading from the following Office of Information Field Offices (OIFO) [ANONYMOUS SOFTWARE] directories.

Table 3 – Software and Documentation Sources

OIFO	FTP Address	Directory
Albany	ftp.fo-albany.med.va.gov	ANONYMOUS.SOFTWARE
Hines	ftp.fo-hines.med.va.gov	ANONYMOUS.SOFTWARE
Salt Lake City	ftp.fo-slc.med.va.gov	ANONYMOUS.SOFTWARE

The CCR 1.5.8 software and accompanying guides and manuals are distributed as the set of files shown in Table 4. No distribution is being made for the CCR 1.5 versions.

Since some sites may need to access both sets of documents during an interim period, the CCR 1.5 versions of the documentation will remain available on the VistA Document Library (VDL) at http://www.va.gov/vdl/application.asp?appid=126.

Table 4 – Files Included in Distribution

File Name	Contents	Retrieval Format	File Size
ROR1_5P8GUI.ZIP	Zipped GUI distributive	BINARY	~7.8MB
ROR1_5P8DOC1.ZIP	Zipped DOC distributive, which includes both .PDF and .DOC formats: ► User Manual (ROR1_5_8UM)	BINARY	~10.0MB
ROR1_5P8DOC2.ZIP	► Installation and Implementation Guide (ROR1_5_8IG) ► Technical Manual / Security Guide (ROR1_5_8TM) ► Release Notes (ROR1_5_8RN)	BINARY	~8.0MB

In addition, you will need the following patches from the National Patch Module in FORUM:

- ROR*1.5*1
- ROR*1.5*2
- ROR*1.5*3
- ROR*1.5*4
- ROR*1.5*5
- ROR*1.5*6
- ROR*1.5*7
- ROR*1.5*8

1.7 VistA Documentation on the Intranet

Documentation for this product, including all of the software manuals, is available in the VistA Document Library (VDL). The Clinical Case Registries documentation may be found at http://www.va.gov/vdl/application.asp?appid=126.

For additional information about the CCR, access the CCR Home Page at the following address: http://VistA.med.va.gov/ClinicalSpecialties/CCR/.

Training links and information are also available at http://vaww.VistAu.med.va.gov/VistAu/CCR/.

1.8 Installing the Current Version of CCR

The method used at your site to install the current version of CCR (CCR 1.5.8) will vary depending on whether or not you already have a previous version of the software installed, and on which version is in use at your site. The known existing circumstances are shown in Table 5. Each patch builds upon previously-installed patches, so you must install patches in the sequence shown for your circumstance.

Please determine which circumstance fits your site and follow the instructions in the table.

Table 5 – Installation Circumstances

#	If you…	Then go to…
1	Have installed CCR version 1.0	Upgrading from CCR Version 1.0 to Version 1.5
2	Are installing CCR for the first time (*e.g.,* at a new site)	Installing CCR 1.5 with No Prior Installation
3	Have installed CCR version 1.5	Updating the CCR 1.5 Installation

2. Upgrading from CCR Version 1.0 to Version 1.5

2.1 Background Information

- Beginning with CCR 1.5, the M server code and data structures were significantly changed. Versions 1.5 and later are *not backward compatible* with version 1.0.
- Due to significant changes in the file structure, any patch `ROR*1.5*1` or later *cannot be uninstalled*.
- Beginning with CCR 1.5, the CCR GUI provides access to both Hepatitis C and HIV registries.
- When CCR 1.5 is installed, the Immunology Case Registry (ICR) is renamed to Human Immunodeficiency Virus Registry (HIV). The internal registry name `VA ICR` is changed to `VA HIV`. All ICR GUI settings (colors, windows sizes, timeouts, and so on.) are reset to default values for all users.

2.2 Required Patches

Before the installation of build ROR*1.5, the patches shown in Table 6 *must* be installed. The patches are to be installed via PackMan messages. They are available on the National Patch Module in FORUM.

Note: You can use the right-hand column of Table 6 and similar tables to check off (✔) each item as it is completed.

Table 6 – Prerequisite Patches: Miscellaneous

Application Name	Patches	✔
Registration	DG*5.3*471, DG*5.3*415, DG*5.3*631	
National Drug File	PSN*4.0*53, PSN*4*79, PSN*4.0*104	
Pharmacy Data Management	PSS*1.0*97, PSS*1.0*101, PSS*1.0*105	
Clinical Case Registries	ROR*1*8 (this patch is not required for initial installation)	

Technically, the Clinical Context Object Workgroup (CCOW) application is not required for the CCR to function properly. Because of this, the CCOW and Single Sign-On/User Context (SSO/UC) related patches are not referenced as required. If they have not been installed, the CCOW functionality of the CCR GUI is automatically disabled.

If a user receives a "Problem with the contextor run" error during startup of the GUI, the likely cause is that the SSO/UC functionality was enabled in VistA while the external software on the Vergence vaults do not have the updated code for this functionality. Patch OSLC*337*2 has been released and provides the updated software to the vaults to correct this problem. The message window can be closed, and the GUI will function normally.

2.3 Routine Summary

The M routines listed in Table 7 are included in KIDS build ROR 1.5.

Table 7 – Routines

Routine	Short Description
ROR	CLINICAL CASE REGISTRIES
ROR01	CLINICAL CASE REGISTRIES

Routine	Short Description
ROR02	CLINICAL CASE REGISTRIES
ROR10	NIGHTLY TASK UTILITIES
ROR11	NIGHTLY TASK UTILITIES
RORAPI01	CLINICAL REGISTRIES API
RORBIN	BINARY OPERATIONS
RORDD	DATA DICTIONARY UTILITIES
RORDD01	DATA DICTIONARY UTILITIES
RORERR	ERROR PROCESSING
RORERR20	LIST OF ERROR MESSAGES
ROREVT01	EVENT PROTOCOLS
ROREXPR	PREPARATION FOR DATA EXTRACTION
ROREXT	DATA EXTRACTION & TRANSMISSION
ROREXT01	EXTRACTION & TRANSMISSION PROCESS
ROREXT02	DEFAULT MESSAGE BUILDER
ROREXT03	REGISTRY DATA EXTRACTION (OVERFLOW)
ROREXTUT	DATA EXTRACT UTILITIES
RORHDT	HISTORICAL DATA EXTRACTION
RORHDT01	HISTORICAL DATA EXTRACTION STATUS
RORHDT02	CREATE EXTRACTION TASK RECORDS
RORHDT03	MANIPULATIONS WITH EXTRACTION TASKS
RORHDT04	HISTORICAL DATA EXTRACTION PROCESS
RORHDT05	HISTORICAL DATA EXTRACTION FUNCTIONS
RORHDT06	HISTORICAL DATA EXTRACTION PARAMETERS
RORHDTAC	DATA EXTRACTION ACTION CONFIRMATIONS
RORHDTUT	HISTORICAL DATA EXTRACTION UTILITIES

Routine	Short Description
RORHIV03	CONVERSION OF THE FILE #158
RORHIVUT	HIV UTILITIES
RORHL01	HL7 PATIENT DATA: PID,ZSP,ZRD
RORHL02	HL7 REGISTRY DATA: CSP,CSR,CSS
RORHL03	HL7 PHARMACY: ORC,RXE
RORHL031	HL7 PHARMACY: UTILITIES
RORHL04	HL7 RADIOLOGY: OBR,OBX
RORHL05	HL7 AUTOPSY: OBR
RORHL06	HL7 LIVER BIOPSY: OBR,OBX
RORHL07	HL7 INPATIENT PHARMACY: ORC,RXE
RORHL071	HL7 IV PHARMACY: ORC,RXE
RORHL08	HL7 INPATIENT DATA: PV1,OBR
RORHL081	HL7 INPATIENT DATA: OBX
RORHL09	HL7 OUTPATIENT DATA: PV1,OBR,OBX
RORHL10	HL7 SURGICAL PATHOLOGY DATA: OBR,OBX
RORHL11	HL7 CYTOPATHOLOGY DATA: OBR,OBX
RORHL12	HL7 MICROBIOLOGY DATA: OBR
RORHL121	HL7 MICROBIOLOGY DATA: OBX
RORHL13	HL7 MEDICAL PROCEDURES (EKG): OBR,OBX
RORHL14	HL7 ALLERGY DATA: OBR,OBX
RORHL15	HL7 IV DATA: OBR, OBX
RORHL16	HL7 VITALS DATA: OBR,OBX
RORHL17	HL7 PROBLEM LIST: OBR,OBX
RORHL7	HL7 UTILITIES
RORHL7A	HL7 UTILITIES

Routine	Short Description
RORHLUT1	HL7 UTILITIES (HIGH LEVEL)
RORKIDS	INSTALL UTILITIES (LOW-LEVEL)
RORLOCK	LOCKS AND TYRANSACTIONS
RORLOG	LOG FILE MANAGEMENT
RORLOG01	LOG FILE MANAGEMENT (UTILITIES)
RORNTEG	KERNEL - Package checksum checker
RORNTEG0	KERNEL - Package checksum checker
RORP000	CCR V1.5 INSTALLATION ROUTINE
RORP000A	CCR V1.5 PRE-INSTALL CODE
RORP000B	CCR V1.5 POST-INSTALL CODE
RORPUT01	EDIT LOINC AND DRUG CODE MULTIPLES
RORPUT02	DATA TRANSPORT FOR KIDS
RORREP01	REGISTRY COMPARISON REPORT
RORREP02	VERSION COMPARISON REPORT (ICR)
RORRP007	RPC: LOGS & MESSAGES
RORRP010	RPC: TASK MANAGER
RORRP011	RPC: TASK MANAGER (REPORTS)
RORRP012	RPC: MISCELLANEOUS
RORRP013	RPC: ACCESS & SECURITY
RORRP014	RPC: REGISTRY INFO & PARAMETERS
RORRP015	RPC: DIVISIONS AND HOSPITAL LOCATIONS
RORRP016	RPC: ICD-9 CODES
RORRP017	RPC: DRUGS AND CLASSES
RORRP018	RPC: LIST OF LAB TESTS
RORRP019	RPC: LIST OF PATIENTS

Routine	Short Description
RORRP020	RPC: PATIENT DATA UTILITIES
RORRP021	RPC: PATIENT DATA
RORRP022	RPC: SELECTION RULES
RORRP023	RPC: REGISTRY COORDINATORS
RORRP024	RPC: VISTA USERS
RORRP025	RPC: RORICR CDC LOAD
RORRP026	RPC: CDC UTILITIES
RORRP027	RPC: RORICR CDC SAVE
RORRP029	RPC: ADDRESS UTILITIES
RORRP030	RPC: PATIENT DELETE
RORRP031	RPC: LOCAL LAB TEST NAMES
RORRP032	RPC: LOCAL DRUG NAMES
RORRP033	RPC: HIV PATIENT LOAD
RORRP034	RPC: HIV PATIENT SAVE/CANCEL
RORRP035	RPC: GENERIC DRUG NAMES
RORRP036	RPC: HEPC PATIENT LOAD
RORRP037	RPC: HEPC PATIENT SAVE/CANCEL
RORRP038	RPC: USER AND PACKAGE PARAMETERS
RORRP040	RPC: LOCAL REGISTRY FIELDS
RORRP041	RPC: REGISTRY-SPECIFIC LAB RESULTS
RORRP042	RPC: CPT CODES
RORSET01	REGISTRY SETUP ROUTINE
RORSETU1	SETUP UTILITIES (USER INTERFACE)
RORSETU2	SETUP UTILITIES (REGISTRY)
RORTSITE	PREPARE TEST SITES FOR GOING LIVE

Routine	Short Description
RORTMP	TEMPORARY GLOBAL STORAGE
RORTSK	TASK MANAGER
RORTSK01	(SUB)TASK UTILITIES
RORTSK02	TASK MANAGER UTILITIES
RORTSK03	TASK MANAGER OVERFLOW CODE
RORTSK10	REPORT RETRIEVING UTILITIES
RORTSK11	REPORT CREATION UTILITIES
RORTSK12	REPORT STATS UTILITIES
RORTSK13	PARSER FOR REPORT PARAMETERS
RORTSK14	PARSER FOR REPORT PARAMETERS (TOOLS)
RORTXT	TEXT RESOURCE UTILITIES
RORUPD	REGISTRY UPDATE
RORUPD01	PROCESSING OF THE FILES
RORUPD04	PROCESSING OF THE LAB DATA
RORUPD05	REGISTRY UPDATE (MULTITASK)
RORUPD06	REGISTRY UPDATE (MISCELLANEOUS)
RORUPD07	PROCESSING OF THE 'PROBLEM' FILE
RORUPD08	PROCESSING OF 'VISIT' & 'V POV' FILES
RORUPD09	PROCESSING OF THE 'PTF' FILE
RORUPD50	UPDATE THE PATIENT IN THE REGISTRIES
RORUPD51	UPDATE PATIENT'S DEMOGRAPHIC DATA (1)
RORUPD52	UPDATE PATIENT'S DEMOGRAPHIC DATA (2)
RORUPD62	HIV-SPECIFIC REGISTRY UPDATE CODE
RORUPDUT	REGISTRY UPDATE UTILITIES
RORUPEX	SELECTION RULE EXPRESSION PARSER

Routine	Short Description
RORUPP01	PATIENT EVENTS (ERRORS)
RORUPP02	PATIENT EVENTS (EVENTS)
RORUPR	SELECTION RULES PREPARATION
RORUPR1	SELECTION RULES PREPARATION
RORUTL01	UTILITIES
RORUTL02	UTILITIES
RORUTL03	ENCRYPTION/DECRYPTION
RORUTL04	REGISTRY STAT REPORT
RORUTL05	MISCELLANEOUS UTILITIES
RORUTL06	DEVELOPER ENTRY POINTS
RORUTL07	TEST ENTRY POINTS
RORUTL08	REPORT PARAMETERS UTILITIES
RORUTL09	LIST ITEM UTILITIES
RORUTL10	LAB DATA SEARCH
RORUTL11	ACCESS AND SECURITY UTILITIES
RORUTL14	PHARMACY DATA SEARCH
RORUTL15	PHARMACY DATA SEARCH (TOOLS)
RORUTL16	PHARMACY DATA SEARCH (UTILITIES)
RORUTL17	REGISTRY INFORMATION UTILITIES
RORUTL18	MISCELLANEOUS UTILITIES
RORUTL19	PATIENT DATA UTILITIES
RORVM001	MAINTENANCE OPTIONS
RORX000	DUMMY REPORT
RORX001	LIST OF REGISTRY PATIENTS
RORX002	CURRENT INPATIENT LIST

Routine	Short Description
RORX003	GENERAL UTLIZATION AND DEMOGRAPHICS
RORX003A	GENERAL UTLIZATION AND DEMOGRAPHICS
RORX004	CLINIC FOLLOW UP
RORX005	INPATIENT UTILIZATION
RORX005A	INPATIENT UTILIZATION (QUERY)
RORX005B	INPATIENT UTILIZATION (SORT)
RORX005C	INPATIENT UTILIZATION (STORE)
RORX006	LAB UTILIZATION
RORX006A	LAB UTILIZATION (QUERY & SORT)
RORX006C	LAB UTILIZATION (STORE)
RORX007	RADIOLOGY UTILIZATION
RORX007A	RADIOLOGY UTILIZATION (OVERFLOW)
RORX008	VERA REIMBURSEMENT REPORT
RORX008A	VERA REIMBURSEMENT REPORT
RORX009	PHARMACY PRESCRIPTION UTILIZATION
RORX009A	PRESCRIPTION UTILIZ. (QUERY & SORT)
RORX009C	PRESCRIPTION UTILIZ. (STORE)
RORX010	LAB TESTS BY RANGE REPORT
RORX011	PATIENT MEDICATION HISTORY
RORX012	COMBINED MEDS AND LABS REPORT
RORX012A	COMBINED MEDS AND LABS (QUERY & STORE)
RORX013	DIAGNOSIS CODES REPORT
RORX013A	DIAGNOSIS CODES (QUERY & SORT)
RORX013C	DIAGNOSIS CODES (STORE)
RORX014	REGISTRY MEDICATIONS REPORT

Routine	Short Description
RORX014A	REGISTRY MEDS REPORT (QUERY & SORT)
RORX015	PROCEDURES (CPT) REPORT
RORX015A	PROCEDURES (QUERY & SORT)
RORX015C	PROCEDURES (STORE)
RORX016	OUTPATIENT UTILIZATION
RORX016A	OUTPATIENT UTILIZATION (QUERY)
RORX016B	OUTPATIENT UTILIZATION (SORT)
RORX016C	OUTPATIENT UTILIZATION (STORE)
RORXU001	REPORT UTILITIES
RORXU002	REPORT BUILDER UTILITIES
RORXU003	REPORT BUILDER UTILITIES
RORXU004	REPORT UTILITIES (STATISTICS)
RORXU005	REPORT BUILDER UTILITIES
RORXU006	REPORT PARAMETERS
RORXU007	PHARMACY-RELATED REPORT PARAMETERS

2.4 File Summary

The following files will be updated by the KIDS build `ROR 1.5`:

- The `ROR VA ICR ADMIN` and `ROR VA ICR USER` security keys will be renamed to `ROR VA HIV ADMIN` and `ROR VA HIV USER`, respectively.
- The `ROR LOCAL REGISTRY file (#798)` will be renamed to `ROR REGISTRY RECORD`.
- The `ROR PENDING PATIENT file (#798.3)` will be renamed to `ROR PATIENT EVENTS` to avoid confusion with the pending patients in the registry.
- The `ROR HDT TASK file (#798.5)` will be deleted.
- The `ROR HISTORICAL DATA EXTRACTION file (#798.6)` will be created.
- The `ROR ICR STUDY file (#799.4)` will be renamed to `ROR HIV RECORD`.

- The ROR LOCAL FIELD file (#799.53) will be created.
- The RORICR SEND HL7 logical link will be deleted. Both Hep C and HIV registries will use the ROR SEND logical link to send the data.

2.5 Preparing for Installation

Instructions in this section are for those sites which have not yet installed Patches ROR*1.5*1 – ROR*1.5*7.

→ For other installations, please see Table 5 on page 11.

Approach: Install Patches ROR*1.5*1 – ROR*1.5*7 (CCR 1.5) in preparation for an immediate upgrade to CCR 1.5.8.

You should warn any users of older software of the changes to come and advise them to make preparations as shown in Table 8.

Table 8 – Preparing to Install ROR*1.5*1 – ROR*1.5*7

Step #	Description	✔
1	Inform any Hepatitis C and HIV registry users that there will be a single CCR GUI instead of separate Hepatitis C and old ICR applications. *They will not be able to use the old Hepatitis C GUI and CCR GUI 1.0 after installation of ROR 1.5!*	
2	Advise any Hepatitis C and HIV registry users to print and/or save all completed reports that they have in their task lists (if they still need them). These reports will be deleted during the installation of ROR*1.5.	
3	Advise any Hepatitis C and HIV registry users to run the List of Registry Patients report both for Hepatitis C and HIV registries and save the output on a workstation. See Appendix A for details.	
4	Write down the time at which the Registry Update & Data Extraction [ROR TASK] option is scheduled to run, and its optional parameters on the second page of the option scheduling dialog.	
5	Make sure that all patches listed in Table 6 – Prerequisite Patches: Miscellaneous (page 12) are installed.	
6	Download the ROR1_5.KID file to your workstation. Use the ASCII mode.	
7	Download the ROR1_5GUI.ZIP file to your workstation. Use the BINARY mode.	

WARNING: The old GUI applications (Hepatitis C and ICR GUIs) cannot be used after installation of build ROR 1.5.

These applications will be automatically disabled by the pre-install code of ROR*1.5*1

and should be uninstalled by the Information Resource Management personnel or the users themselves (see section 5 Installing the GUI on page 52 for details).

2.6 M Server Installation

M server installation should be done prior to the GUI installation.

2.6.1 Background Information

- The ROR VA IRM security key is required for installation of the ROR 1.5 KIDS build.
- Access to the HL7 package is required to complete the implementation of the ROR 1.5 package.

Warnings:

- The build should be installed in production accounts *only* during off-hours!
- The nightly task (the `Registry Update & Data Extraction [ROR TASK]` option) must *not* be running during the installation!
- The report tasks (started from the GUI) must *not* be running during the installation!
- Registry users should not use the CCR 1.5 software nor access the CCR files during the installation!
- The options and protocols in the ROR namespace must be marked as 'Out of Order' during the installation (see the sample screen capture of the installation).

- TaskMan does not need to be STOPPED or placed in a WAIT state.
- Conversion of the registry files is performed during the pre-install and post-install phases. Therefore, the whole installation can take about 10-15 minutes at larger facilities.
- Sample screen captures are what they are: samples. Directory names and dates shown on them may be different during the installation at your site.

2.6.2 M Server Installation Steps

Note: You can use the right-hand column of the following table to check off (✔) each item as it is completed.

Table 9 – M Server Installation Steps

Step	Action	✔
1	Make sure that you have the `ROR VA IRM` security key.	
2	On the `Kernel Installation & Distribution System [XPD MAIN]` menu, select the `Installation [XPD INSTALLATION MENU]` option, and use the following options to install the `ROR 1.5` build:	

a Load a Distribution

```
   1       Load a Distribution
   2       Verify Checksums in Transport Global
   3       Print Transport Global
   4       Compare Transport Global to Current System
   5       Backup a Transport Global
   6       Install Package(s)
           Restart Install of Package(s)
           Unload a Distribution

Select Installation Option: Load a Distribution
Enter a Host File: VA3$:[USERNAME]ROR1_5.KID

KIDS Distribution saved on Jan 02, 2006@07:23:11
Comment: Clinical Case Registries v1.5

This Distribution contains Transport Globals for the following
Package(s):
   ROR 1.5
Distribution OK!

Want to Continue with Load? YES// <RET>
Loading Distribution...

Build ROR 1.5 has an Environmental Check Routine
Want to RUN the Environment Check Routine? YES// <RET>
   ROR 1.5
Will first run the Environment Check Routine, RORP000

Use INSTALL NAME: ROR 1.5 to install this Distribution.
```

b Verify Checksums in Transport Global

```
   1       Load a Distribution
   2       Verify Checksums in Transport Global
   3       Print Transport Global
   4       Compare Transport Global to Current System
   5       Backup a Transport Global
   6       Install Package(s)
           Restart Install of Package(s)
           Unload a Distribution

Select Installation Option: Verify Checksums in Transport Global
Select INSTALL NAME: ROR 1.5

This Distribution was loaded on Jan 02, 2006@05:58:06 with header of
   Clinical Case Registries v1.5
   It consisted of the following Install(s):
        ROR 1.5
```

Step	Action	✔

```
DEVICE: HOME// <RET>

PACKAGE: ROR 1.5     Jan 02, 2006 6:02 am
PAGE 1
-------------------------------------------------------------------------

   191 Routine checked, 0 failed.
```

c Backup a Transport Global

```
   1      Load a Distribution
   2      Verify Checksums in Transport Global
   3      Print Transport Global
   4      Compare Transport Global to Current System
   5      Backup a Transport Global
   6      Install Package(s)
          Restart Install of Package(s)
          Unload a Distribution

Select Installation Option: Backup a Transport Global
Select INSTALL NAME: ROR 1.5
     => ROR 1.5

This Distribution was loaded on Jan 02, 2006@05:58:06 with header of
   Clinical Case Registries v1.5
   It consisted of the following Install(s):
        ROR 1.5
Subject: Backup of ROR 1.5 install on Jan 02, 2006  Replace
Loading Routines for ROR 1.5....
Routine ROR11 is not on the disk.........................
Routine RORHDT06 is not on the disk....
Routine RORHIV03 is not on the disk..
Routine RORHIVUT is not on the
disk.................................
Routine RORP000A is not on the disk..
Routine RORP000B is not on the disk.............................
Routine RORRP036 is not on the disk..
Routine RORRP037 is not on the disk..
Routine RORRP038 is not on the disk..
Routine RORRP040 is not on the disk..
Routine RORRP041 is not on the disk..
Routine RORRP042 is not on the disk..............
Routine RORTMP is not on the disk........
Routine RORTSK12 is not on the disk..
Routine RORTSK13 is not on the disk..
Routine RORTSK14 is not on the disk.............
Routine RORUPD61 is not on the disk..
Routine RORUPD62 is not on the disk.......................
Routine RORUTL19 is not on the disk.............................
Routine RORX015 is not on the disk..
Routine RORX015A is not on the disk..
Routine RORX015C is not on the disk..
Routine RORX016 is not on the disk..
Routine RORX016A is not on the disk..
Routine RORX016B is not on the disk..
Routine RORX016C is not on the disk.........
Send mail to: GAVRILOV,SERGEY// <RET>
Select basket to send to: IN// <RET>
```

Step	Action	✔
	And Send to: **<RET>**	

d Install Package(s)

```
   1      Load a Distribution
   2      Verify Checksums in Transport Global
   3      Print Transport Global
   4      Compare Transport Global to Current System
   5      Backup a Transport Global
   6      Install Package(s)
          Restart Install of Package(s)
          Unload a Distribution

Select Installation Option: Install Package(s)
Select INSTALL NAME: ROR 1.5
     => ROR 1.5

This Distribution was loaded on Jan 02, 2006@05:58:06 with header of
   Clinical Case Registries v1.5
   It consisted of the following Install(s):
        ROR 1.5
Checking Install for Package ROR 1.5
Will first run the Environment Check Routine, RORP000

Please do not forget to reschedule the Registry Update & Data
Extraction [ROR TASK] option after you make sure that the new
version of the CCR package is installed successfully.

Install Questions for ROR 1.5

Incoming Files:

   798       ROR REGISTRY RECORD
*BUT YOU ALREADY HAVE 'ROR LOCAL REGISTRY' AS FILE #798!
Shall I write over your ROR LOCAL REGISTRY File? YES// <RET>

   798.1     ROR REGISTRY PARAMETERS  (including data)
Note:  You already have the 'ROR REGISTRY PARAMETERS' File.
I will OVERWRITE your data with mine.

   798.2     ROR SELECTION RULE  (including data)
Note:  You already have the 'ROR SELECTION RULE' File.
I will OVERWRITE your data with mine.

   798.3     ROR PATIENT EVENTS
*BUT YOU ALREADY HAVE 'ROR PENDING PATIENT' AS FILE #798.3!
Shall I write over your ROR PENDING PATIENT File? YES// <RET>

   798.4     ROR PATIENT
Note:  You already have the 'ROR PATIENT' File.

   798.6     ROR PHARMACY CODE  (including data)
Note:  You already have the 'ROR PHARMACY CODE' File.
I will OVERWRITE your data with mine.

   798.7     ROR LOG
Note:  You already have the 'ROR LOG' File.
```

Step	Action	✔

```
   798.8     ROR TASK
Note:  You already have the 'ROR TASK' File.

   798.9     ROR LAB SEARCH  (including data)
Note:  You already have the 'ROR LAB SEARCH' File.
I will OVERWRITE your data with mine.

   799.1     ROR LIST ITEM
Note:  You already have the 'ROR LIST ITEM' File.

   799.2     ROR METADATA  (including data)
Note:  You already have the 'ROR METADATA' File.
I will OVERWRITE your data with mine.

   799.31    ROR XML ITEM  (including data)
Note:  You already have the 'ROR XML ITEM' File.
I will OVERWRITE your data with mine.

   799.33    ROR DATA AREA  (including data)
Note:  You already have the 'ROR DATA AREA' File.
I will OVERWRITE your data with mine.

   799.34    ROR REPORT PARAMETERS  (including data)
Note:  You already have the 'ROR REPORT PARAMETERS' File.
I will OVERWRITE your data with mine.

   799.4     ROR HIV RECORD
*BUT YOU ALREADY HAVE 'ROR ICR STUDY' AS FILE #799.4!
Shall I write over your ROR ICR STUDY File? YES// <RET>

   799.49    ROR AIDS INDICATOR DISEASE  (including data)
Note:  You already have the 'ROR AIDS INDICATOR DISEASE' File.
I will OVERWRITE your data with mine.

   799.51    ROR GENERIC DRUG  (including data)
Note:  You already have the 'ROR GENERIC DRUG' File.
I will OVERWRITE your data with mine.

   799.53    ROR LOCAL FIELD

   799.6     ROR HISTORICAL DATA EXTRACTION
Want KIDS to Rebuild Menu Trees Upon Completion of Install? YES// NO

Want KIDS to INHIBIT LOGONs during the install? YES// NO
Want to DISABLE Scheduled Options, Menu Options, and Protocols?
YES// <RET>

Enter options you wish to mark as 'Out Of Order': ROR*

Enter options you wish to mark as 'Out Of Order': <RET>

Enter protocols you wish to mark as 'Out Of Order': ROR*

Enter protocols you wish to mark as 'Out Of Order': <RET>

Delay Install (Minutes):  (0-60): 0// 3

Enter the Device you want to print the Install messages.
You can queue the install by enter a 'Q' at the device prompt.
```

Step	Action	✔

```
Enter a '^' to abort the install.

DEVICE: HOME// <RET>

Install Started for ROR 1.5 :
               Jan 02, 2006@06:04:17

Build Distribution Date: Jan 01, 2006

 Installing Routines:
               Jan 02, 2006@06:04:19

 Running Pre-Install Routine: PRE^RORP000

   Removing old selection rule references...
   The references have been removed.

   Clearing the ROR TASK file...
   The file has been cleared.

   Clearing the ROR REPORT PARAMETERS file...
   The file has been cleared.

   Deleting old HepC Lab Search Criteria...
   The search criteria have been deleted.

   Deleting old GUI parameters...
   The parameters have been deleted.

   Deleting the subfile #798.19...
   The subfile has been deleted.

   Deleting the subfile #798.116...
   The subfile has been deleted.

   Deleting the subfile #798.117...
   The subfile has been deleted.

   Deleting the subfile #798.112...
   The subfile has been deleted.

   Deleting the subfile #798.118...
   The subfile has been deleted.

   Deleting redundant data from the file #798.1 ...
   The data has been deleted.

   Deleting the field definitions...
   File #798.1, Fields:
'2.1;2.2;2.3;2.4;2.5;15.9;19.2;21.01;21.02;21.03;21.06'
   The definitions have been deleted.

   Deleting the field definitions...
   File #798, Fields: '2;2.1;2.2;3.2;6;6.1;7;7.1;12'
   The definitions have been deleted.

   Deleting the file #798.5...
   The file has been deleted.
```

Step	Action	✔

```
   Checking the ICR Lab search criteria...
   Search criteria have been renamed.

   Checking the ICR selection rules...
   Selection rules have been renamed.

   Renaming the ICR registry parameters...
   Registry parameters have been renamed.

Installing Data Dictionaries:
               Jan 02, 2006@06:05

 Installing Data:
               Jan 02, 2006@06:05:03

 Installing PACKAGE COMPONENTS:

 Installing SECURITY KEY

 Installing FUNCTION

 Installing PRINT TEMPLATE

 Installing SORT TEMPLATE

 Installing INPUT TEMPLATE

 Installing DIALOG

 Installing HL LOGICAL LINK

 Installing HL7 APPLICATION PARAMETER

 Installing PROTOCOL

 Installing REMOTE PROCEDURE

 Installing OPTION

 Installing PARAMETER DEFINITION
               Jan 02, 2006@06:05:39
Running Post-Install Routine: POS^RORP000

   Renaming the ICR security keys...
   The keys have been renamed successfully.

   Restoring the CDC definition...
   The definition has been restored successfully.

   Updating ROR REGISTRY PARAMETERS file (#798.1)...
   The file has been updated successfully.

   Converting ROR REGISTRY RECORD file
(#798).....................................................
.....................................................................
.......
   The file has been converted successfully.

   Updating ROR HIV RECORD file (#799.4)...
```

Step	Action	✔
	The file has been updated successfully. Restoring the ROR GENERIC DRUG data... Data has been successfully restored. Restoring predefined report templates... Templates have been restored successfully. Updating Routine file... Updating KIDS files... ROR 1.5 Installed. Jan 02, 2006@06:06:21 Install Message sent #24244163 Install Completed	
3	Review the CCR logs of the installation using the `Print Log Files [RORMNT PRINT LOGS]` option of the `Clinical Case Registries Maintenance [RORMNT MAIN]` menu.	
4	If you are installing the build into a test/mirror account, go to step 9.	
5	Open the definition of the `ROR SEND HL7` logical link using the `Link Edit [HL EDIT LOGICAL LINKS]` option of the `Filer and Link Management Options [HL MENU FILER LINK MGT]` menu.	
	Event monitoring menu ... Systems Link Monitor Filer and Link Management Options ... Message Management Options ... Interface Developer Options ... Site Parameter Edit HLO HL7 (Optimized) MAIN MENU ... Select HL7 Main Menu Option: Filer and Link Management Options SM Systems Link Monitor FM Monitor, Start, Stop Filers LM TCP Link Manager Start/Stop SA Stop All Messaging Background Processes RA Restart/Start All Links and Filers DF Default Filers Startup SL Start/Stop Links PI Ping (TCP Only) ED Link Edit ER Link Errors ... Select Filer and Link Management Options Option: **ED** Select HL LOGICAL LINK NODE: **ROR SEND**	
6	***Do not do this in test/mirror accounts!*** Open the `TCP LOWER LEVEL PARAMETERS` pop-up window. Make sure that	

Step	Action	✔
	the value of the TCP/IP ADDRESS field is "10.224.187.9" and change the value of the TCP/IP PORT field to 7002. This IP address and port number is needed to transmit your data to the Austin Automation Center.	
	HL7 LOGICAL LINK TCP LOWER LEVEL PARAMETERS ROR SEND TCP/IP SERVICE TYPE: CLIENT (SENDER) TCP/IP ADDRESS: 10.224.187.9 TCP/IP PORT: 7002 TCP/IP PORT (OPTIMIZED): ACK TIMEOUT: 600 RE-TRANSMISION ATTEMPTS: READ TIMEOUT: 30 EXCEED RE-TRANSMIT ACTION: restart BLOCK SIZE: SAY HELO: STARTUP NODE: PERSISTENT: RETENTION: 10 UNI-DIRECTIONAL WAIT: COMMAND: Press <PF1>H for help Insert	
7	Close the pop-up window, save the changes, and exit the option.	
8	***Do not do this in test/mirror accounts!*** Restart the ROR SEND logical link	
	SM Systems Link Monitor FM Monitor, Start, Stop Filers LM TCP Link Manager Start/Stop SA Stop All Messaging Background Processes RA Restart/Start All Links and Filers DF Default Filers Startup SL Start/Stop Links PI Ping (TCP Only) ED Link Edit ER Link Errors ... Select Filer and Link Management Options Option: **SL** This option is used to launch the lower level protocol for the appropriate device. Please select the node with which you want to communicate Select HL LOGICAL LINK NODE: **ROR SEND** The LLP was last started on Jan 17, 2006 09:33:56. Okay to shut down this job? **YES** The job for the ROR SEND Lower Level Protocol will be shut down. SM Systems Link Monitor FM Monitor, Start, Stop Filers LM TCP Link Manager Start/Stop SA Stop All Messaging Background Processes RA Restart/Start All Links and Filers	

Step	Action	✔
	DF Default Filers Startup SL Start/Stop Links PI Ping (TCP Only) ED Link Edit ER Link Errors ... Select Filer and Link Management Options Option: **SL** This option is used to launch the lower level protocol for the appropriate device. Please select the node with which you want to communicate Select HL LOGICAL LINK NODE: **ROR SEND** The LLP was last shutdown on Jan 17, 2006 09:34:12. This LLP has been enabled!	
9	You can schedule the CCR nightly task in a test/mirror account but this is not required. If you choose to do so, please do not forget to un-schedule it after the testing is complete and you install the software in the production account. Otherwise, you can go to step 14.	
10	Open the scheduling parameters of the nightly task (the Registry Update & Data Extraction [ROR TASK] option) using the Schedule/Unschedule Options [XUTM SCHEDULE] option.	
	Schedule/Unschedule Options One-time Option Queue TaskMan Management Utilities ... List Tasks Dequeue Tasks Requeue Tasks Delete Tasks Print Options that are Scheduled to run Cleanup Task List Print Options Recommended for Queueing Select TaskMan Management Option: **Schedule/Unschedule Options** Select OPTION to schedule or reschedule: **ROR TASK** ...OK? Yes// **<RET>**	
11	Restore the value of the QUEUED TO RUN AT WHAT TIME field (make sure that future date and time are used) if the field is empty, and replace the VA ICR with the VA HIV in the TASK PARAMETSR field.	
	Edit Option Schedule Option Name: ROR TASK Menu Text: Registry Update & Data Extraction TASK ID: _____ QUEUED TO RUN AT WHAT TIME: JAN 3,2006@01:30 DEVICE FOR QUEUED JOB OUTPUT: QUEUED TO RUN ON VOLUME SET: RESCHEDULING FREQUENCY: **1D**	

Step	Action	✔
	TASK PARAMETERS: VA HEPC,VA HIV SPECIAL QUEUEING: _____ COMMAND: Press <PF1>H for help Insert	
12	Switch to the second page using the Next command and restore the value of the RORSUSP parameter (if it is empty) according to your notes from the preparation phase. The RORSUSP parameter determines the time frame when the nightly task is suspended to prevent a negative impact on the system response time during the business hours. Therefore, if this parameter was empty even before the installation, enter the time frame of business hours at your site.	
	Edit Option Schedule Option Name: ROR TASK _____ USER TO RUN TASK: VARIABLE NAME: RORSUSP VALUE: "07:00-20:00" VARIABLE NAME: VALUE: VARIABLE NAME: VALUE: VARIABLE NAME: VALUE: VARIABLE NAME: VALUE: _____ COMMAND: Press <PF1>H for help Insert	
13	Save the changes and exit the scheduling option.	
14	Assign the Broker Context [ROR GUI] option to Hepatitis C registry users as a secondary menu (previously, they had the Hepatitis C Registry GUI Menu [ROR GUI MENU] option).	

After installing the M components of CCR 1.5, you will need to update the software to the current patch level.

What now?

1. **GO TO**: Updating the CCR 1.5 Installation
2. **GO TO:** Installing the GUI

3. Installing CCR 1.5 with No Prior Installation

Instructions in this section are for those sites which have never installed CCR 1.5.

→ For other installations, please see Table 5 on page 11.

KIDS build ROR 1.5 is used to start the process of installing CCR 1.5 at your site.

3.1 Required Patches

Before the installation of build ROR*1.5, the patches shown in Table 6 *must* be installed. The patches are to be installed via PackMan messages. They are available on the National Patch Module in FORUM.

Note: You can use the right-hand column of Table 6 and similar tables to check off (✔) each item as it is completed.

Table 10 – Prerequisite Patches: Miscellaneous

Application Name	Patches	✔
Health Level Seven	HL*1.6*57	
Registration	DG*5.3*471, DG*5.3*415, DG*5.3*631	
Automated Lab Instruments	LA*5.2*69	
Lab Service	LR*5.2*222, LR*5.2*232	
Medicine or Clinical Procedures	MC*2.3*34 or MD*1.0*1	
National Drug File	PSN*4.0*53, PSN*4*79, PSN*4.0*104	
Pharmacy Data Management	PSS*1.0*101, PSS*1.0*105, PSS*1.0*97	
Scheduling	SD*5.3*254, SD*5.3*131	

3.2 Routine Summary

The M routines listed in Table 11 are included in KIDS build ROR 1.5.

Table 11 – Routines

Routine	Short Description
ROR	CLINICAL CASE REGISTRIES
ROR01	CLINICAL CASE REGISTRIES
ROR02	CLINICAL CASE REGISTRIES
ROR10	NIGHTLY TASK UTILITIES
ROR11	NIGHTLY TASK UTILITIES
RORAPI01	CLINICAL REGISTRIES API
RORBIN	BINARY OPERATIONS
RORDD	DATA DICTIONARY UTILITIES
RORDD01	DATA DICTIONARY UTILITIES
RORERR	ERROR PROCESSING
RORERR20	LIST OF ERROR MESSAGES
ROREVT01	EVENT PROTOCOLS
ROREXPR	PREPARATION FOR DATA EXTRACTION
ROREXT	DATA EXTRACTION & TRANSMISSION
ROREXT01	EXTRACTION & TRANSMISSION PROCESS
ROREXT02	DEFAULT MESSAGE BUILDER
ROREXT03	REGISTRY DATA EXTRACTION (OVERFLOW)
ROREXTUT	DATA EXTRACT UTILITIES
RORHDT	HISTORICAL DATA EXTRACTION
RORHDT01	HISTORICAL DATA EXTRACTION STATUS
RORHDT02	CREATE EXTRACTION TASK RECORDS
RORHDT03	MANIPULATIONS WITH EXTRACTION TASKS
RORHDT04	HISTORICAL DATA EXTRACTION PROCESS
RORHDT05	HISTORICAL DATA EXTRACTION FUNCTIONS
RORHDT06	HISTORICAL DATA EXTRACTION PARAMETERS
RORHDTAC	DATA EXTRACTION ACTION CONFIRMATIONS
RORHDTUT	HISTORICAL DATA EXTRACTION UTILITIES
RORHIV03	CONVERSION OF THE FILE #158

Routine	Short Description
RORHIVUT	HIV UTILITIES
RORHL01	HL7 PATIENT DATA: PID,ZSP,ZRD
RORHL02	HL7 REGISTRY DATA: CSP,CSR,CSS
RORHL03	HL7 PHARMACY: ORC,RXE
RORHL031	HL7 PHARMACY: UTILITIES
RORHL04	HL7 RADIOLOGY: OBR,OBX
RORHL05	HL7 AUTOPSY: OBR
RORHL06	HL7 LIVER BIOPSY: OBR,OBX
RORHL07	HL7 INPATIENT PHARMACY: ORC,RXE
RORHL071	HL7 IV PHARMACY: ORC,RXE
RORHL08	HL7 INPATIENT DATA: PV1,OBR
RORHL081	HL7 INPATIENT DATA: OBX
RORHL09	HL7 OUTPATIENT DATA: PV1,OBR,OBX
RORHL10	HL7 SURGICAL PATHOLOGY DATA: OBR,OBX
RORHL11	HL7 CYTOPATHOLOGY DATA: OBR,OBX
RORHL12	HL7 MICROBIOLOGY DATA: OBR
RORHL121	HL7 MICROBIOLOGY DATA: OBX
RORHL13	HL7 MEDICAL PROCEDURES (EKG): OBR,OBX
RORHL14	HL7 ALLERGY DATA: OBR,OBX
RORHL15	HL7 IV DATA: OBR,OBX
RORHL16	HL7 VITALS DATA: OBR,OBX
RORHL17	HL7 PROBLEM LIST: OBR,OBX
RORHL7	HL7 UTILITIES
RORHL7A	HL7 UTILITIES
RORHLUT1	HL7 UTILITIES (HIGH LEVEL)
RORKIDS	INSTALL UTILITIES (LOW-LEVEL)
RORLOCK	LOCKS AND TYRANSACTIONS
RORLOG	LOG FILE MANAGEMENT
RORLOG01	LOG FILE MANAGEMENT (UTILITIES)
RORNTEG	KERNEL - Package checksum checker

Routine	Short Description
RORNTEG0	KERNEL - Package checksum checker
RORP000	CCR V1.5 INSTALLATION ROUTINE
RORP000A	CCR V1.5 PRE-INSTALL CODE
RORP000B	CCR V1.5 POST-INSTALL CODE
RORPUT01	EDIT LOINC AND DRUG CODE MULTIPLES
RORPUT02	DATA TRANSPORT FOR KIDS
RORREP01	REGISTRY COMPARISON REPORT
RORREP02	VERSION COMPARISON REPORT (ICR)
RORRP007	RPC: LOGS & MESSAGES
RORRP010	RPC: TASK MANAGER
RORRP011	RPC: TASK MANAGER (REPORTS)
RORRP012	RPC: MISCELLANEOUS
RORRP013	RPC: ACCESS & SECURITY
RORRP014	RPC: REGISTRY INFO & PARAMETERS
RORRP015	RPC: DIVISIONS AND HOSPITAL LOCATIONS
RORRP016	RPC: ICD-9 CODES
RORRP017	RPC: DRUGS AND CLASSES
RORRP018	RPC: LIST OF LAB TESTS
RORRP019	RPC: LIST OF PATIENTS
RORRP020	RPC: PATIENT DATA UTILITIES
RORRP021	RPC: PATIENT DATA
RORRP022	RPC: SELECTION RULES
RORRP023	RPC: REGISTRY COORDINATORS
RORRP024	RPC: VISTA USERS
RORRP025	RPC: RORICR CDC LOAD
RORRP026	RPC: CDC UTILITIES
RORRP027	RPC: RORICR CDC SAVE
RORRP029	RPC: ADDRESS UTILITIES
RORRP030	RPC: PATIENT DELETE
RORRP031	RPC: LOCAL LAB TEST NAMES

Routine	Short Description
RORRP032	RPC: LOCAL DRUG NAMES
RORRP033	RPC: HIV PATIENT LOAD
RORRP034	RPC: HIV PATIENT SAVE/CANCEL
RORRP035	RPC: GENERIC DRUG NAMES
RORRP036	RPC: HEPC PATIENT LOAD
RORRP037	RPC: HEPC PATIENT SAVE/CANCEL
RORRP038	RPC: USER AND PACKAGE PARAMETERS
RORRP040	RPC: LOCAL REGISTRY FIELDS
RORRP041	RPC: REGISTRY-SPECIFIC LAB RESULTS
RORRP042	RPC: CPT CODES
RORSET01	REGISTRY SETUP ROUTINE
RORSETU1	SETUP UTILITIES (USER INTERFACE)
RORSETU2	SETUP UTILITIES (REGISTRY)
RORTSITE	PREPARE TEST SITES FOR GOING LIVE
RORTMP	TEMPORARY GLOBAL STORAGE
RORTSK	TASK MANAGER
RORTSK01	(SUB)TASK UTILITIES
RORTSK02	TASK MANAGER UTILITIES
RORTSK03	TASK MANAGER OVERFLOW CODE
RORTSK10	REPORT RETRIEVING UTILITIES
RORTSK11	REPORT CREATION UTILITIES
RORTSK12	REPORT STATS UTILITIES
RORTSK13	PARSER FOR REPORT PARAMETERS
RORTSK14	PARSER FOR REPORT PARAMETERS (TOOLS)
RORTXT	TEXT RESOURCE UTILITIES
RORUPD	REGISTRY UPDATE
RORUPD01	PROCESSING OF THE FILES
RORUPD04	PROCESSING OF THE LAB DATA
RORUPD05	REGISTRY UPDATE (MULTITASK)
RORUPD06	REGISTRY UPDATE (MISCELLANEOUS)

Routine	Short Description
RORUPD07	PROCESSING OF THE 'PROBLEM' FILE
RORUPD08	PROCESSING OF 'VISIT' & 'V POV' FILES
RORUPD09	PROCESSING OF THE 'PTF' FILE
RORUPD50	UPDATE THE PATIENT IN THE REGISTRIES
RORUPD51	UPDATE PATIENT'S DEMOGRAPHIC DATA (1)
RORUPD52	UPDATE PATIENT'S DEMOGRAPHIC DATA (2)
RORUPD62	HIV-SPECIFIC REGISTRY UPDATE CODE
RORUPDUT	REGISTRY UPDATE UTILITIES
RORUPEX	SELECTION RULE EXPRESSION PARSER
RORUPP01	PATIENT EVENTS (ERRORS)
RORUPP02	PATIENT EVENTS (EVENTS)
RORUPR	SELECTION RULES PREPARATION
RORUPR1	SELECTION RULES PREPARATION
RORUTL01	UTILITIES
RORUTL02	UTILITIES
RORUTL03	ENCRYPTION/DECRYPTION
RORUTL04	REGISTRY STAT REPORT
RORUTL05	MISCELLANEOUS UTILITIES
RORUTL06	DEVELOPER ENTRY POINTS
RORUTL07	TEST ENTRY POINTS
RORUTL08	REPORT PARAMETERS UTILITIES
RORUTL09	LIST ITEM UTILITIES
RORUTL10	LAB DATA SEARCH
RORUTL11	ACCESS AND SECURITY UTILITIES
RORUTL14	PHARMACY DATA SEARCH
RORUTL15	PHARMACY DATA SEARCH (TOOLS)
RORUTL16	PHARMACY DATA SEARCH (UTILITIES)
RORUTL17	REGISTRY INFORMATION UTILITIES
RORUTL18	MISCELLANEOUS UTILITIES
RORUTL19	PATIENT DATA UTILITIES

Routine	Short Description
RORVM001	MAINTENANCE OPTIONS
RORX000	DUMMY REPORT
RORX001	LIST OF REGISTRY PATIENTS
RORX002	CURRENT INPATIENT LIST
RORX003	GENERAL UTLIZATION AND DEMOGRAPHICS
RORX003A	GENERAL UTLIZATION AND DEMOGRAPHICS
RORX004	CLINIC FOLLOW UP
RORX005	INPATIENT UTILIZATION
RORX005A	INPATIENT UTILIZATION (QUERY)
RORX005B	INPATIENT UTILIZATION (SORT)
RORX005C	INPATIENT UTILIZATION (STORE)
RORX006	LAB UTILIZATION
RORX006A	LAB UTILIZATION (QUERY & SORT)
RORX006C	LAB UTILIZATION (STORE)
RORX007	RADIOLOGY UTILIZATION
RORX007A	RADILOGY UTILIZATION (OVERFLOW)
RORX008	VERA REIMBURSEMENT REPORT
RORX008A	VERA REIMBURSEMENT REPORT
RORX009	PHARMACY PRESCRIPTION UTILIZATION
RORX009A	PRESCRIPTION UTILIZ. (QUERY & SORT)
RORX009C	PRESCRIPTION UTILIZ. (STORE)
RORX010	LAB TESTS BY RANGE REPORT
RORX011	PATIENT MEDICATION HISTORY
RORX012	COMBINED MEDS AND LABS REPORT
RORX012A	COMBINED MEDS AND LABS (QUERY & STORE)
RORX013	DIAGNOSIS CODES REPORT
RORX013A	DIAGNOSIS CODES (QUERY & SORT)
RORX013C	DIAGNOSIS CODES (STORE)
RORX014	REGISTRY MEDICATIONS REPORT
RORX014A	REGISTRY MEDS REPORT (QUERY & SORT)

Routine	Short Description
RORX015	PROCEDURES (CPT) REPORT
RORX015A	PROCEDURES (QUERY & SORT)
RORX015C	PROCEDURES (STORE)
RORX016	OUTPATIENT UTILIZATION
RORX016A	OUTPATIENT UTILIZATION (QUERY)
RORX016B	OUTPATIENT UTILIZATION (SORT)
RORX016C	OUTPATIENT UTILIZATION (STORE)
RORXU001	REPORT UTILITIES
RORXU002	REPORT BUILDER UTILITIES
RORXU003	REPORT BUILDER UTILITIES
RORXU004	REPORT UTILITIES (STATISTICS)
RORXU005	REPORT BUILDER UTILITIES
RORXU006	REPORT PARAMETERS
RORXU007	PHARMACY-RELATED REPORT PARAMETERS

3.3 File and Global Summary

Two new globals will be created during an initial installation of KIDS build ROR 1.5: ^ROR and ^RORDATA.

The ^ROR global is quite small and mostly static. It contains the registry parameters, selection rules, Lab search definitions, and so on.

The ^RORDATA global is a dynamic global and will be large under most circumstances. It will contain the registries, error logs, lists of event references, reports, and so on. The sustained growth of ^RORDATA depends on the number of new patients in the registries (about 200 bytes per patient).

However, in the first couple of weeks the global will grow faster because of the error logs (the ROR LOG file) and event references (the EVENT multiple of the ROR PATIENT EVENTS file). Both files are self-maintained and the nightly task (the Registry Update & Data Extraction [ROR TASK] option) purges the old records from these files automatically. The initial growth of these files depends on the activity level (number of events) and quality of the data (number of error messages stored in the logs) at your site.

The following files are exported with the KIDS build ROR 1.5:

Table 12 – Files and Globals

File #	File Name	Global Name
798	ROR REGISTRY RECORD	^RORDATA(798,
798.1	ROR REGISTRY PARAMETERS	^ROR(798.1,
798.2	ROR SELECTION RULE	^ROR(798.2,
798.3	ROR PATIENT EVENTS	^RORDATA(798.3,
798.4	ROR PATIENT	^RORDATA(798.4,
798.6	ROR PHARMACY CODE	^ROR(798.6,
798.7	ROR LOG	^RORDATA(798.7,
798.8	ROR TASK	^RORDATA(798.8,
798.9	ROR LAB SEARCH	^ROR(798.9,
799.1	ROR LIST ITEM	^ROR(799.1,
799.2	ROR METADATA	^ROR(799.2,
799.31	ROR XML ITEM	^ROR(799.31,
799.33	ROR DATA AREA	^ROR(799.33,
799.34	ROR REPORT PARAMETERS	^ROR(799.34,
799.4	ROR HIV RECORD	^RORDATA(799.4,
799.49	ROR AIDS INDICATOR DISEASE	^ROR(799.49,
799.51	ROR GENERIC DRUG	^ROR(799.51,
799.53	ROR LOCAL FIELD	^ROR(799.53,
799.6	ROR HISTORICAL DATA EXTRACTION	^RORDATA(799.6,

See the *Clinical Case Registries Technical Manual/Security Guide* for more details.

3.4 Preparing to Install

- Make sure that all required patches are installed.
- Download the `ROR1_5.KID` file to your VMS account. Use the ASCII mode.
- Download the `ROR1_5GUI.ZIP` file to your workstation. Use the BINARY mode.

3.5 M Server Installation

M server installation should be done prior to the GUI installation.

3.5.1 Background Information

Warning: The build should be installed in production accounts *only* during off-hours!

- TaskMan does not need to be STOPPED or placed in a WAIT state.
- Sample screen captures are what they are: samples. Directory names and dates shown on them may be different during the installation at your site.

3.5.2 M Server Installation Steps

Note: You can use the right-hand column of the following table to check off (✔) each item as it is completed.

Table 13 – M Server Installation Steps

Step	Action	✔
1	On the `Kernel Installation & Distribution System [XPD MAIN]` menu, select the `Installation [XPD INSTALLATION MENU]` option, and use the following options to install the `ROR 1.5` build:	
	a Load a Distribution	

```
   1       Load a Distribution
   2       Verify Checksums in Transport Global
   3       Print Transport Global
   4       Compare Transport Global to Current System
   5       Backup a Transport Global
   6       Install Package(s)
           Restart Install of Package(s)
           Unload a Distribution

Select Installation Option: Load a Distribution
Enter a Host File: VA3$:[USERNAME]ROR1_5.KID

KIDS Distribution saved on Jan 02, 2006@07:23:11
Comment: Clinical Case Registries v1.5

This Distribution contains Transport Globals for the following
Package(s):
   ROR 1.5
Distribution OK!

Want to Continue with Load? YES// <RET>
Loading Distribution...

Build ROR 1.5 has an Environmental Check Routine
Want to RUN the Environment Check Routine? YES// <RET>
   ROR 1.5
Will first run the Environment Check Routine, RORP000
```

Step	Action	✔

```
Use INSTALL NAME: ROR 1.5 to install this Distribution.
```

b Verify Checksums in Transport Global

```
   1      Load a Distribution
   2      Verify Checksums in Transport Global
   3      Print Transport Global
   4      Compare Transport Global to Current System
   5      Backup a Transport Global
   6      Install Package(s)
          Restart Install of Package(s)
          Unload a Distribution

Select Installation Option: Verify Checksums in Transport Global
Select INSTALL NAME: ROR 1.5

     => Clinical Case Registries v1.5

This Distribution was loaded on Feb 01, 2006@09:17:55 with header of
   Clinical Case Registries v1.5
   It consisted of the following Install(s):
        ROR 1.5
DEVICE: HOME// <RET>

PACKAGE: ROR 1.5     Feb 01, 2006 9:18 am                       PAGE 1
------------------------------------------------------------------------

   191 Routine checked, 0 failed.
```

d Install Package(s)

```
   1      Load a Distribution
   2      Verify Checksums in Transport Global
   3      Print Transport Global
   4      Compare Transport Global to Current System
   5      Backup a Transport Global
   6      Install Package(s)
          Restart Install of Package(s)
          Unload a Distribution

Select Installation Option: Install Package(s)
Select INSTALL NAME: ROR 1.5
     => Clinical Case Registries v1.5

This Distribution was loaded on Feb 01, 2006@09:17:55 with header of
   Clinical Case Registries v1.5
   It consisted of the following Install(s):
        ROR 1.5
Checking Install for Package ROR 1.5
Will first run the Environment Check Routine, RORP000

Install Questions for ROR 1.5

Incoming Files:

   798        ROR REGISTRY RECORD

   798.1      ROR REGISTRY PARAMETERS  (including data)
```

Step	Action	✔

```
   798.2     ROR SELECTION RULE  (including data)

   798.3     ROR PATIENT EVENTS

   798.4     ROR PATIENT

   798.6     ROR PHARMACY CODE  (including data)

   798.7     ROR LOG

   798.8     ROR TASK

   798.9     ROR LAB SEARCH  (including data)

   799.1     ROR LIST ITEM

   799.2     ROR METADATA  (including data)

   799.31    ROR XML ITEM  (including data)

   799.33    ROR DATA AREA  (including data)

   799.34    ROR REPORT PARAMETERS  (including data)

   799.4     ROR HIV RECORD

   799.49    ROR AIDS INDICATOR DISEASE  (including data)

   799.51    ROR GENERIC DRUG

   799.53    ROR LOCAL FIELD

   799.6     ROR HISTORICAL DATA EXTRACTION  (including data)

Want KIDS to Rebuild Menu Trees Upon Completion of Install? YES// NO

Want KIDS to INHIBIT LOGONs during the install? YES// NO
Want to DISABLE Scheduled Options, Menu Options, and Protocols?
YES// NO

Enter the Device you want to print the Install messages.
You can queue the install by enter a 'Q' at the device prompt.
Enter a '^' to abort the install.

DEVICE: HOME// <RET>
Install Started for ROR 1.5 :
               Feb 01, 2006@09:18:49

Build Distribution Date: Jan 25, 2006

 Installing Routines:
               Feb 01, 2006@09:18:50

 Running Pre-Install Routine: PRE^RORP000

Installing Data Dictionaries:
               Feb 01, 2006@09:18:51

 Installing Data:
```

Step	Action	✔

```
               Feb 01, 2006@09:18:53

 Installing PACKAGE COMPONENTS:

 Installing SECURITY KEY

 Installing FUNCTION

 Installing PRINT TEMPLATE

 Installing SORT TEMPLATE

 Installing INPUT TEMPLATE

 Installing DIALOG

 Installing HL LOGICAL LINK

 Installing HL7 APPLICATION PARAMETER

 Installing PROTOCOL
  Located in the ROR (CLINICAL CASE REGISTRIES) namespace.
  Located in the ROR (CLINICAL CASE REGISTRIES) namespace.
  Located in the ROR (CLINICAL CASE REGISTRIES) namespace.
  Located in the ROR (CLINICAL CASE REGISTRIES) namespace.
  Located in the ROR (CLINICAL CASE REGISTRIES) namespace.

 Installing REMOTE PROCEDURE

 Installing OPTION

 Installing PARAMETER DEFINITION
               Feb 01, 2006@09:18:54

Running Post-Install Routine: POS^RORP000

   Renaming the ICR security keys...
   The keys have been renamed successfully.

   Restoring the CDC definition...
   The definition has been restored successfully.

   Updating ROR REGISTRY PARAMETERS file (#798.1)...
   The file has been updated successfully.

   Converting ROR REGISTRY RECORD file (#798)...
   The file has been converted successfully.

   Updating ROR HIV RECORD file (#799.4)...
   The file has been updated successfully.

   Restoring the ROR GENERIC DRUG data...
   Data has been successfully restored.

   Restoring predefined report templates...
   Templates have been restored successfully.

 Updating Routine file...
```

Step	Action	✔
	Updating KIDS files... ROR 1.5 Installed. Feb 01, 2006@09:18:56 Install Message sent #47199 Install Completed	

After installing the M components of CCR 1.5, you will need to implement CCR at your site. You do not need to install the GUI until you have completed upgrading to the latest version of CCR.

3.6 Implementing CCR

Complete the following steps to fully implement the CCR package:

Table 14 – Implementation Steps

Step	Action	✔
1	Assign the ROR VA IRM security key to yourself.	
2	Review the registry parameters and define the list of users who should be notified about problems with CCR 1.5. Please do not change the default registry parameters unless you are instructed otherwise. >**D ^XUP** Setting up programmer environment Terminal Type set to: C-VT320 Select OPTION NAME: **RORMNT MAIN** ACL Re-index the ACL cross-reference ELS Edit Lab Search Criteria ERP Edit Registry Parameters HDE Historical Data Extraction ... PLF Print Log Files PP Pending Patients ... Select Clinical Case Registries Maintenance Option: **ERP** Select ROR REGISTRY PARAMETERS REGISTRY NAME: **VA HEPC** REGISTRY UPDATED UNTIL: JAN 1,1990// **<RET>** DATA EXTRACTED UNTIL: JAN 1,1985// **<RET>** EXTRACT PERIOD FOR NEW PATIENT: 7300// **<RET>** ENABLE LOG: YES// **<RET>** Select LOG EVENT: **<RET>** REGISTRY STATUS: **<RET>** Select NOTIFICATION: **CCRUSER,ONE** Are you adding ' CCRUSER,ONE ' as a new NOTIFICATION (the 1ST for this ROR REGISTRY PARAMETERS)? No// **Y** Select NOTIFICATION: **<RET>**	

Step	Action	✔
	LAG DAYS: 7// **<RET>** ALERT FREQUENCY: 2// **<RET>** ENABLE PROTOCOLS: YES// **<RET>** MAXIMUM MESSAGE SIZE: 5// **<RET>**	
3	Schedule the initial registry population task(s) for Hepatitis C and/or HIV registries. These tasks will search the patient data in the time frame from the date defined by the REGISTRY UPDATED UNTIL parameter until the day when the setup is performed. All patients that have registry-specific positive lab results and ICD-9 codes will be added to the registry in a pending state. This process puts a significant load on the system. Therefore, it is not recommended to perform the initial population for more than one registry at a time.	

```
>D ^XUP

Setting up programmer environment
Terminal Type set to: C-VT320

Select OPTION NAME: ROR SETUP
Registry Setup
Select a Registry: VA HEPC
Maximum number of registry update subtasks:  (0-10): 5// ?

  - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
  During the initial registry population performed by the
  registry setup task several registry update subtask can be
  scheduled to speed up the process.
  - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
  Enter a number between 0 and 10, 0 decimal digits.

Maximum number of registry update subtasks:  (0-10): 5// <RET>
Suspend the post-install during the peak hours? NO// ?

  - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
  If you answer YES to this question, registry update subtasks
  that populate the registry will be suspended during the peak
  weekday hours to conserve the CPU resources.

  The tasks will not be suspended on weekends and holidays.
  If the initial registry update runs in the single-task mode,
  it will never be suspended.

  Two additional prompts will be displayed asking you to enter
  start and end time of the suspension.
  - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
  Enter either 'Y' or 'N'.

Suspend the post-install during the peak hours? NO// YES
Suspension start time:  7:00AM// ?

  - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
  Registry update subtasks will be suspended after this time
  every day except the weekends and holidays. However, they
  will be checking for a stop request every hour during the
```

Step	Action	✔
	suspension. - Enter time of the day (e.g. 8AM). Suspension start time: 7:00AM// <RET> Suspension end time: 6:00PM// **?** - The registry update subtasks will be resumed at this time every day. The suspension end time must be later than the suspension start time. - Enter time of the day (e.g. 5PM). Suspension end time: 6:00PM// **<RET>** ========== Number of registry update (sub)tasks... 5 Suspend the tasks during peak hours.... Yes Suspend the tasks at..... 07:00 Resume the tasks at..... 18:00 ========== Requested Start Time: NOW// **<RET>**	
4	Wait until the registry population tasks are complete. The user who schedules the initial registry population tasks will receive a VistA alert when the process is complete. It is possible to stop the registry population task(s) using the TaskMan User [XUTM USER] option of the User's Toolbox [XUSERTOOLS] option. All tasks will be terminated when any one task is stopped. Tasks complete the patient they are currently processing before stopping, so it can take a few minutes to see that these tasks have been removed from TaskMan. Wait five minutes before checking TaskMan. If the tasks are suspended, the system checks for stop requests hourly. Therefore, it can take up to one hour before they are removed from the list of running tasks. When the registry population task is re-started, the patients already processed by the tasks will be skipped if you are working in multitask mode (i.e. the value of the 'Maximum number of registry update subtasks' parameter was more than 1).	
5	Repeat steps 3 and 4 for another registry if needed.	
6	Assign the appropriate security keys to the users of the CCR package in order to allow them access to the software. The CCR security keys can be placed into 3 different groups: • Registry user keys (ROR VA HEPC USER and ROR VA HIV USER). Users with these keys can use the CCR GUI to run reports for the corresponding registries. • Registry administrator keys (ROR VA HEPC ADMIN and ROR VA HIV ADMIN). Users with these keys have full access to the GUI for	

Step	Action	✔
	the corresponding registries. • IRM personnel key (ROR VA IRM). This key provides access to all CCR files in VistA, but does not allow access to the GUI. This key should be assigned to the IRM personnel responsible for CCR package maintenance.	
	Assignment of the ROR VA IRM security key takes effect immediately. All other keys must be "activated" before the users get the corresponding level of access. The keys are activated automatically by the nightly task (the Registry Update & Data Extraction [ROR TASK] option), or you can activate the keys manually using the Re-index the ACL cross-reference [RORMNT ACL REINDEX] option of the Clinical Case Registries Maintenance [RORMNT MAIN] menu.	
7	You should also assign the Broker Context [ROR GUI] option to those users who will be using the CCR GUI.	
8	Start the HL7 logical link ROR SEND. SM Systems Link Monitor FM Monitor, Start, Stop Filers LM TCP Link Manager Start/Stop SA Stop All Messaging Background Processes RA Restart/Start All Links and Filers DF Default Filers Startup SL Start/Stop Links PI Ping (TCP Only) ED Link Edit ER Link Errors ... Select Filer and Link Management Options Option: **SL** This option is used to launch the lower level protocol for the appropriate device. Please select the node with which you want to communicate Select HL LOGICAL LINK NODE: **ROR SEND** This LLP has been enabled!	
9	Schedule the CCR nightly task (the Registry Update & Data Extraction [ROR TASK] option). Schedule/Unschedule Options One-time Option Queue Taskman Management Utilities ... List Tasks Dequeue Tasks Requeue Tasks Delete Tasks Print Options that are Scheduled to run Cleanup Task List Print Options Recommended for Queueing Select Taskman Management Option: **Sch**edule/Unschedule Options Select OPTION to schedule or reschedule: **ROR TASK**	

Step	Action	✔
	Are you adding 'ROR TASK' as a new OPTION SCHEDULING (the 91ST)? No// **Y** Edit Option Schedule Option Name: ROR TASK Menu Text: Registry Update & Data Extractio TASK ID: QUEUED TO RUN AT WHAT TIME: **T+1@01:30** DEVICE FOR QUEUED JOB OUTPUT: QUEUED TO RUN ON VOLUME SET: RESCHEDULING FREQUENCY: **1D** TASK PARAMETERS: **VA HEPC,VA HIV** SPECIAL QUEUEING: Exit Save Next Page Refresh COMMAND: Press <PF1>H for help Insert	
10	Switch to the second page using the Next command and add the RORSUSP variable that defines the suspension parameters of the registry update and data extraction subtasks. The value should contain start and end times of the suspension (in external format) separated by a hyphen character "-". For example, the "7:00-18:00" value will suspend the subtasks from 7:00 am until 6:00 pm each day except weekends and holidays. The subtasks are *not* suspended by default. See the description of the Registry Update & Data Extraction [ROR TASK] option in the Clinical Case Registries *Technical Manual/Security Guide* for more details. Edit Option Schedule Option Name: ROR TASK USER TO RUN TASK: VARIABLE NAME: **RORSUSP** VALUE: **"07:00-19:00"** VARIABLE NAME: VALUE: VARIABLE NAME: VALUE: VARIABLE NAME: VALUE: VARIABLE NAME: VALUE: COMMAND: Press <PF1>H for help	

Step	Action	✔
	Insert	
11	Close the form and save the changes.	
12	Instruct the registry coordinators to confirm those pending registry patients who should be in the registry and delete those who should not. See the *CCR User Manual* for details on confirming a pending patient.	
13	When the registry validation is complete, perform the historical data extraction and upload the historical data files to the national database (optional). See the *CCR Technical Manual / Security Guide* for details.	

After installing the M components of CCR 1.5 and implementing CCR at your site, you will need to install the GUI software.

1. GO TO: Updating the CCR 1.5 Installation
2. GO TO: Installing the GUI

4. Updating the CCR 1.5 Installation

Instructions in this section are for those sites which have installed CCR 1.5 and are upgrading the installation.

→ For other installations, please see Table 5 on page 11.

After installing the M components of CCR 1.5, you will need to update the software to the current patch level. All CCR patches are available via the National Patch Tracking module in FORUM. All patches contain installation instructions and must be installed in order of release. Current patches to CCR 1.5 are listed in Table 15.

Table 15 – Current CCR 1.5 Patches

Patches	Description	✔
ROR*1.5*1	14 enhancements: See *CCR Technical Manual*	
ROR*1.5*2	7 fixes: See *CCR Technical Manual*	
ROR*1.5*3	2 enhancements: Added Reason for Study data field; added task Control flag.	
ROR*1.5*4	1 enhancement: Added two ICD-9 codes.	
ROR*1.5*5	1 fix: Resolved issue with Procedures w/o Provider not being sent to AAC. 1 enhancement: Added drug needed for nightly registry update and data extraction.	
ROR*1.5*6	1 enhancement: Added generic drug RALTEGRAVIR to VA GENERIC file #50.6.	
ROR*1.5*7	1 enhancement: Added generic drug ETRAVIRINE to VA GENERIC file #50.6.	
ROR*1.5*8	1 fix; 9 enhancements. See CCR Technical Manual	

After updating the M components of CCR 1.5, you will need to install the GUI.

GO TO: Installing the GUI

5. Installing the GUI

5.1 Background Information

- The current CCR GUI provides access to both Hepatitis C and HIV registries, and it replaces the old Hepatitis C and CCR 1.0 applications. The old applications are automatically *disabled* after build ROR 1.5 is installed. These applications should be *uninstalled* and the CCR 1.5.8 GUI should be installed in their place.
- It is *strongly recommended* that the GUI be installed on a file server and the application made available to the users via the CPRS Tool menu. Installing the GUI on workstations is *not recommended*.
- Access to the registries is controlled by the security keys on the VistA server.

- For users who have access to a single registry, its window will be opened automatically by the GUI. Users who have access to both registries will be able to select a registry from a list.

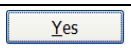
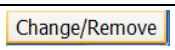
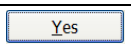
- In addition to the `/NOCCOW` command-line parameter that disables the CCOW functionality completely, CCR 1.5 also supports the parameter `/CCOW=PatientOnly`, which disables only the Single Sign-On/User Context (SSO/UC) functionality.

5.2 Uninstalling Older Software Versions

If you are doing a first-time installation: There should not be any old software to be uninstalled. If you don't know whether old software is present, use the uninstall procedure in Table 16 just to be sure! If you are certain that no old software has been installed, you may skip to section 5.3 on page 54.

If you are doing an upgrade: Strictly speaking, uninstalling the older versions of the GUI software should not be required. To eliminate any chance for errors, however, it is *strongly recommended* that any older versions be uninstalled using the instructions in Table 16.

Table 16 – Uninstalling Previous GUI Versions

Step #	Description	✔
1	From the **Start** menu, select **Settings**, then **Control Panel**.	
2	 Double-click the **Add or Remove Programs** icon.	
3	 Select **Clinical Case Registries** from the list and click the **[Change/Remove]** button.	
4	Select **Remove** and (if prompted) click the **[Next]** button.	
5	 Confirm the uninstall action by clicking the **[OK]** or **[Yes]** button.	
6	Confirm deletion of read-only files by setting the **Don't display this message again** check-box and clicking the **[Yes]** button.	
7	Confirm deletion of shared files by clicking the **[Yes]** button.	
8	Wait until the Uninstall Wizard completes the removal and click the **[Finish]** button.	
9	 Select **Hepatitis C Local Registry** from the list and click the **[Change/Remove]** button.	
10	 Confirm the uninstall action by clicking the **[OK]** or **[Yes]** button.	
11	Wait until the Uninstall Wizard completes the removal and click the **[OK]** button.	

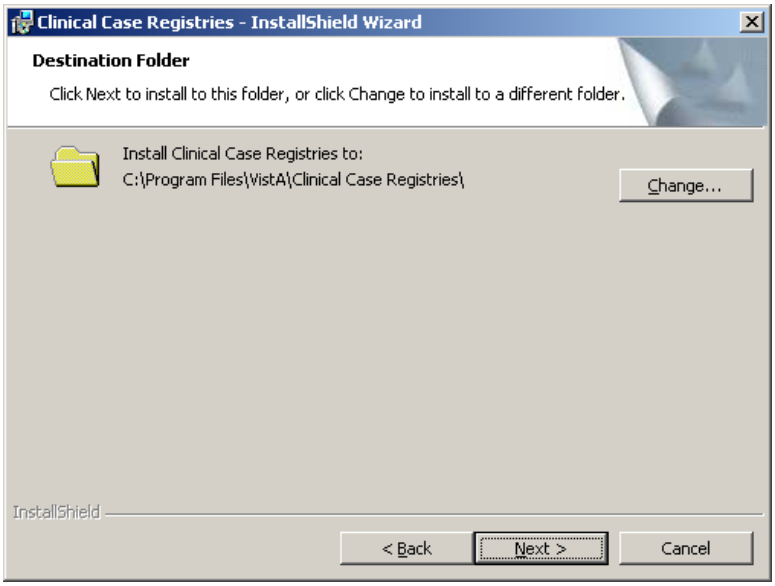
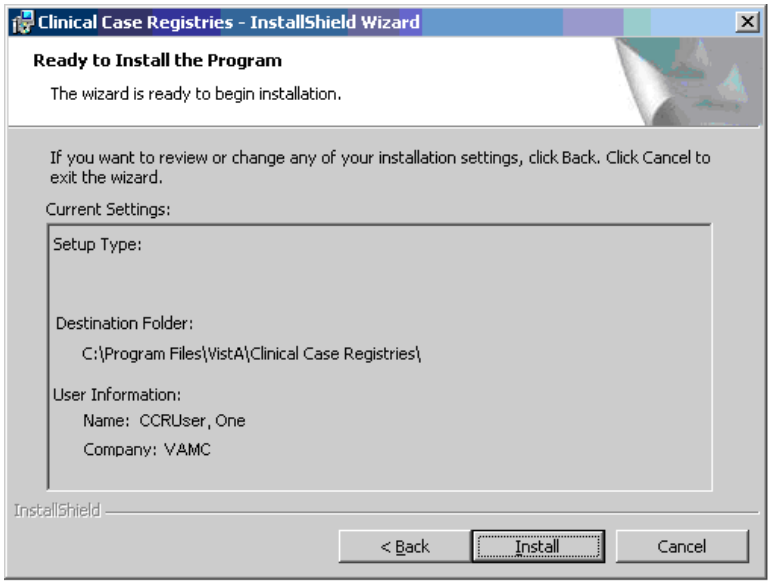
Step #	Description	✔
12	Close the **Add or Remove Programs** window and the **Control Panel** window.	

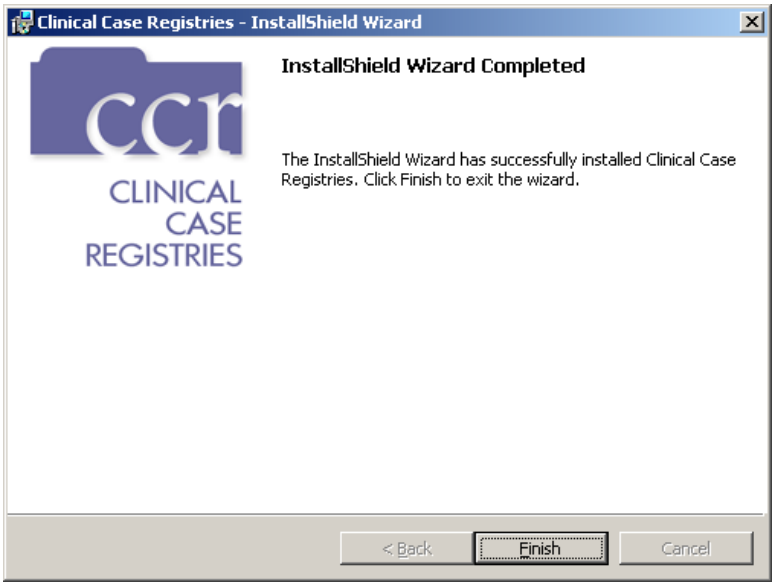
5.3 Installing New GUI

Download and install the new GUI using the instructions in Table 17.

Table 17 – Installing New GUI

Step #	Description	✔
1	Download and unzip the `ROR1_5P8GUI.ZIP` into a temporary directory.	
2	Run `CCRSetup.exe` by selecting **Start** | **Run** | **CCRSetup.exe**.	
3	Wait until the InstallShield Wizard prepares the setup procedure. A welcome message displays: 	
4	 Click **[Next]** to continue the installation. The directory selection dialog displays:	

Step #	Description	✔
		
5	Select the directory in which to install the CCR GUI. We recommend that you accept the default directory: **C:\Program Files\VistA\Clinical Case Registries**. Change... To select a different location, click **[Change…]** and select the directory. Next > Click **[Next]** to continue the installation. The Install dialog displays: 	
6	Install Review the installation settings and click **[Install]** to proceed. The InstallShield Wizard finishes the installation and a confirmation	

Step #	Description	✔
	screen displays: 	
7	Finish Click **[Finish].**	

What now?

If you installed the CCR GUI on a file server (recommended):

Continue with Step 8 immediately below.

If you installed the CCR GUI on user workstations (not recommended):

Continue with section 5.4 on page 57.

Step #	Description	✔
8	**If you installed the CCR GUI on a file server (recommended):** **Note:** If you have previously set up the CPRS Tools menu (as for a previous version of CCR), you should not have to perform this step. Go to the End Note on page 60. Add the corresponding item to the `CPRS Tool menu` using the `CPRS GUI Tools Menu [ORW TOOL MENU ITEMS]` option. It is recommended that you add the item at "User" level. If you used the default directory for the installation, the "`Name=Command`" parameter should look like this: `Clinical Case Registries="C:\Program`	

Files\VistA\Clinical Case Registries\ClinicalCaseRegistries.exe" /S="*{Server IP Address}*" /P=*{RPC Broker Port}*

Below is a typical configuration example:

```
>D ^XUP

Setting up programmer environment
Terminal Type set to: C-VT320

Select OPTION NAME: ORW TOOL MENU ITEMS

CPRS GUI Tools Menu may be set for the following:

     1   User          USR    [choose from NEW PERSON]
     2   Location      LOC    [choose from HOSPITAL LOCATION]
     2.5 Service       SRV    [choose from SERVICE/SECTION]
     3   Division      DIV    [HINES DEVELOPMENT]
     4   System        SYS    [DEV.DEV.FO-HINES.MED.VA.GOV]
     9   Package       PKG    [ORDER ENTRY/RESULTS REPORTING]

Enter selection: 1
Select NEW PERSON NAME: CCRUSER,ONE

------ Setting CPRS GUI Tools Menu  for User: CCRUSER,ONE -------
Select Sequence: 10
Are you adding 10 as a new Sequence? Yes// <RET>

Sequence: 10// <RET>
Name=Command: Clinical Case Registries="C:\Program
Files\VistA\Clinical Case Registries\ClinicalCaseRegistries.exe"
/P="10.3.29.201" /P=9200
Select Sequence: <RET>
```

Please refer to the GUI Tool Menu Items section of the *Computerized Patient Record System (CPRS) v1.0 Setup Guide* (http://www.va.gov/vdl/application.asp?appid=61) for more details.

You can also use other command-line parameters described in 5.5 below to further customize the menu item (limit access to a single registry, disable CCOW, etc.).

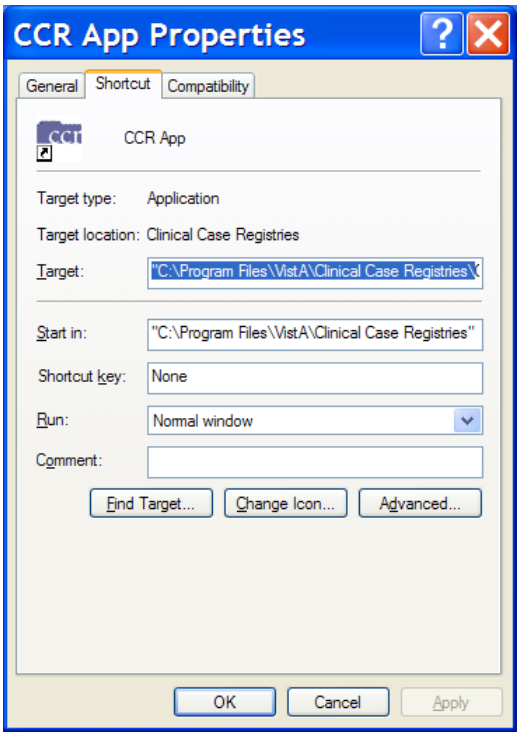
5.4 Configuring Desktop Application Parameters

Note: Follow these instructions only if you elected to install the GUI on user workstations (not recommended). You can configure the application shortcut parameters if necessary.

There are two ways to configure the GUI for those users who are coordinators of both Hepatitis C and HIV registries:

- **Single shortcut:** This is the default. A single shortcut is created on the desktop. When the GUI is launched (or when File, Open is selected from the menu), the user selects the desired registry from the list.

- **Separate shortcuts:** Two separate shortcuts are created, one for the Hepatitis C registry and one for the HIV registry. A command-line switch in each shortcut allows access only to a single registry. As a result, the registry selection dialog box is not displayed and the corresponding registry is opened automatically. This can be accomplished by adding the `/R` parameter after the executable name in the Target field of the shortcut. For example:



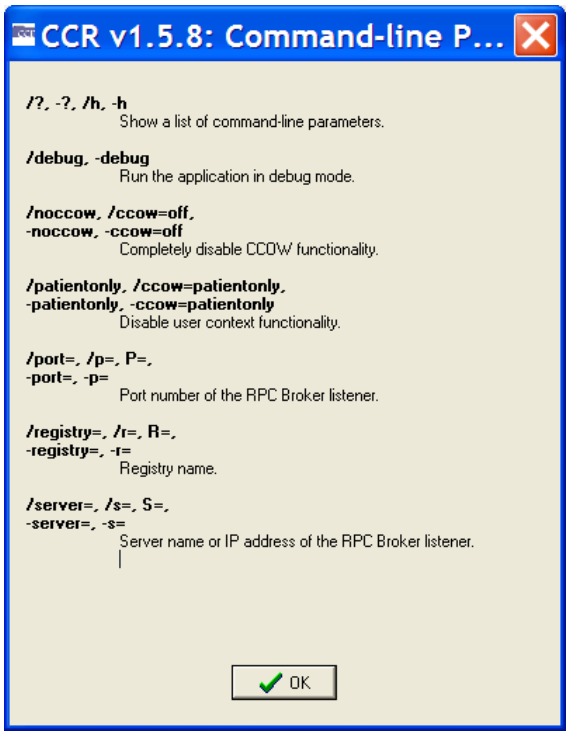
The Target field should read `"C:\Program Files\VistA\Clinical Case Registries\ClinicalCaseRegistries.exe" /R="VA HEPC"`

5.5 Command-Line Switches

You can get a list of command-line "switches" supported by the CCR GUI by running the application with the `/?` or `/h` parameter. For example:

Start | Run | "C:\Program Files\VistA\Clinical Case Registries\ClinicalCaseRegistries.exe" /?

Note the use of quotation marks around the "target" application name. These are usually required when using this method because the C:\Program Files\Vista directory is typically not in the *path* (the list of directories which the operating system searches for executable files).



The switches are also shown in Table 18 for convenience.

Table 18 – Command Line Switches

Switch	Description
`/?, -?, /h, -h`	Show a list of command-line parameters
`/debug, -debug`	Run the application in debug mode
`/noccow, /ccow=off, -noccow, -ccow=off`	Completely disable CCOW functionality
`/patientonly, /ccow=patientonly, -patientonly, -ccow=patientonly`	Disable user context functionality
`/port=, /p=, P=, -port=, -p=`	Port number of the RPC Broker listener
`/registry=, /r=, R=, -registry=, -r=`	Registry name
`/server=, /r=, S=, -server=, -s=`	Server name or IP address of the RPC Broker listener

What now?

Upgrading/installation and implementation are complete. Check documentation for further details. If you have not already downloaded the documentation files, see 1.6 Software and Manual Retrieval on page 9.

You may also find the documentation on the VistA Documentation Library (VDL) at http://www.va.gov/vdl/application.asp?appid=126.

Glossary

A more complete glossary is included in the *CCR User Manual*.

Term or Acronym	Description
AAC	*See* Corporate Data Center Operations
Acquired Immunodeficiency Syndrome (AIDS)	AIDS is a disease of the human immune system caused by the human immunodeficiency virus (HIV). This condition progressively reduces the effectiveness of the immune system and leaves individuals susceptible to opportunistic infections and tumors.
API	See Application Programmer Interface
ADPAC	See Automated Data Processing Application Coordinator
AIDS	See Acquired Immunodeficiency Syndrome
AITC	See Austin Information Technology Center
Application Program Interface (API)	The interface (calling conventions) by which an application program accesses operating system and other services. An API is defined at source code level and provides a level of abstraction between the application and the kernel (or other privileged utilities) to ensure the portability of the code. An API can also provide an interface between a high level language and lower level utilities and services which were written without consideration for the calling conventions supported by compiled languages. In this case, the API's main task may be the translation of parameter lists from one format to another and the interpretation of call-by-value and call-by-reference arguments in one or both directions.
Austin Automation Center (AAC)	See Corporate Data Center Operations
Automated Data Processing Application Coordinator (ADPAC)	The ADPAC is the person responsible for planning and implementing new work methods and technology for employees throughout a medical center. ADPACs train employees and assist users when they [Run] into difficulties, and needs to know how all components of the system work. ADPACs maintain open communication with their supervisors and Service Chiefs, as well as their counterparts in Fiscal and Acquisitions and Materiel

Term or Acronym	Description
	Management (A&MM), or Information Resource Management (IRM).
CCOW	*See* Clinical Context Object Workgroup
Clinical Context Object Workgroup (CCOW)	CCOW is an HL7 standard protocol designed to enable disparate applications to synchronize in real-time, and at the user-interface level. It is vendor independent and allows applications to present information at the desktop and/or portal level in a unified way. CCOW is the primary standard protocol in healthcare to facilitate a process called "Context Management." Context Management is the process of using particular "subjects" of interest (e.g., user, patient, clinical encounter, charge item, etc.) to 'virtually' link disparate applications so that the end-user sees them operate in a unified, cohesive way. Context Management can be utilized for both CCOW and non-CCOW compliant applications. The CCOW standard exists to facilitate a more robust, and near "plug-and-play" interoperability across disparate applications. Context Management is often combined with Single Sign-On applications in the healthcare environment, but the two are discrete functions. Single Sign On is the process that enables the secure access of disparate applications by a user through use of a single authenticated identifier and password.
Computerized Patient Record System (CPRS)	A Computerized Patient Record (CPR) is a comprehensive database system used to store and access patients' healthcare information. CPRS is the Department of Veteran's Affairs electronic health record software. The CPRS organizes and presents all relevant data on a patient in a way that directly supports clinical decision making. This data includes medical history and conditions, problems and diagnoses, diagnostic and therapeutic procedures and interventions. Both a graphical user interface version and a character-based interface version are available. CPRS provides a single interface for health care providers to review and update a patient's medical record, and to place orders, including medications, special procedures, x-rays, patient care nursing orders, diets, and laboratory tests. CPRS is flexible enough to be implemented in a wide variety of settings for a broad spectrum of health care workers, and provides a consistent, event-driven, Windows-style interface.
Corporate Data Center Operations	Federal data center within the Department of Veterans Affairs (VA). As a franchise fund, or fee-for-service organization, CDCO-Austin provides cost-efficient IT enterprise solutions to support the

Term or Acronym	Description
(CDCO)	information technology needs of customers within the Federal sector. Formerly the Austin Automation Center (AAC); formerly the Austin Information Technology Center (AITC). See http://www.aac.va.gov/index.php.
CPRS	See Computerized Patient Record System
DBIA	See Database Integration Agreement
DFN	File Number—the local/facility patient record number (patient file internal entry number)
Database Integration Agreement (DBIA)	**M** code is not "compiled and linked," so any code is open to anyone to call. The same is true for the data. This permits an incredible level of integration between applications, but it is "too open" for some software architects' liking. The VA has instituted Database Integration Agreements to enforce external policies and procedures to avoid unwanted dependencies.
Data Extraction Process	This process is run after the registry update process. This function goes through patients on the local registry and, depending on their status, extracts all available data for the patient, since the last extract was run. The extract transmits any collected data for the patient to the national database via HL7.
FileMan	FileMan is a set of M utilities written in the late 1970s and early 1980s which allow the definition of data structures, menus and security, reports, and forms. Its first use was in the development of medical applications for the Veterans Administration (now the Department of Veterans Affairs). Since it was a work created by the government, the source code cannot be copyrighted, placing that code in the public domain. For this reason, it has been used for rapid development of applications across a number of organizations, including commercial products.
Globals	M uses globals, variables which are intrinsically stored in files and persist beyond the program or process completion. Globals appear as normal variables with the caret character in front of the name. For example, the **M** statement… `SET ^A("first_name")="Bob"` …will result in a new record being created and inserted in the file structure, persistent just as a file persists in an operating system. Globals are stored, naturally, in highly structured data files by the language and accessed only as **M** globals. Huge databases grow

Term or Acronym	Description
	randomly rather than in a forced serial order, and the strength and efficiency of **M** is based on its ability to handle all this flawlessly and invisibly to the programmer. For all of these reasons, one of the most common **M** programs is a database management system. FileMan is one such example. **M** allows the programmer much wider control of the data; there is no requirement to fit the data into square boxes of rows and columns.
Graphical User Interface (GUI)	A graphical user interface (or GUI, often pronounced "gooey") is a graphical (rather than purely textual) user interface to a computer. A GUI is a particular case of user interface for interacting with a computer which employs graphical images and widgets in addition to text to represent the information and actions available to the user. Usually the actions are performed through direct manipulation of the graphical elements. A GUI takes advantage of the computer's graphics capabilities to make the program easier to use. *Sources:* http://en.wikipedia.org/wiki/GUI http://www.webopedia.com/TERM/G/Graphical_User_Interface_GUI.html *See also* User Interface
GUI	See Graphical User Interface
Health Level 7 (HL7)	One of several American National Standards Institute (ANSI)–accredited Standards Developing Organizations operating in the healthcare arena. "Level Seven" refers to the highest level of the International Standards Organization's (ISO) communications model for Open Systems Interconnection (OSI)— the application level. The application level addresses definition of the data to be exchanged, the timing of the interchange, and the communication of certain errors to the application. The seventh level supports such functions as security checks, participant identification, availability checks, exchange mechanism negotiations and, most importantly, data exchange structuring. HL7 focuses on the interface requirements of the entire health care organization. Source: http://www.hl7.org/about/.
Hepatitis C	A liver disease caused by the hepatitis C virus (HCV). HCV infection sometimes results in an acute illness, but most often becomes a chronic condition that can lead to cirrhosis of the liver and liver cancer. See http://www.cdc.gov/hepatitis/index.htm
HIV	See Human Immunodeficiency Virus
HL7	See Health Level 7

Term or Acronym	Description
Human Immunodeficiency Virus (HIV)	HIV is a lentivirus (a member of the retrovirus family) that can lead to acquired immunodeficiency syndrome (AIDS), a condition in humans in which the immune system begins to fail, leading to life-threatening opportunistic infections. HIV is different from most other viruses because it attacks the immune system. The immune system gives our bodies the ability to fight infections. HIV finds and destroys a type of white blood cell (T cells or CD4 cells) that the immune system must have to fight disease. See also AIDS. See http://www.cdc.gov/hiv/topics/basic/index.htm.
ICD-9	*International Statistical Classification of Diseases and Related Health Problems*, ninth edition (commonly abbreviated as "ICD-9") provides numeric codes to classify diseases and a wide variety of signs, symptoms, abnormal findings, complaints, social circumstances and external causes of injury or disease. Every health condition can be assigned to a unique category and given a code, up to six characters long. Such categories can include a set of similar diseases. The "-9" refers to the ninth edition of these codes; the tenth edition has been published, but is not in widespread use at this time.
Information Resources Management (IRM)	The service which is involved in planning, budgeting, procurement and management-in-use of VA's information technology investments.
Interface	An interface defines the communication boundary between two entities, such as a piece of software, a hardware device, or a user.
IRM	See Information Resource Management
Kernel	The VistA software that enables VistA applications to coexist in a standard operating system independent computing environment.
Kernel Installation and Distribution System (KIDS)	KIDS provides a mechanism to create a distribution of packages and patches; allows distribution via a MailMan message or a host file; and allows queuing the installation of a distribution for off-hours.
KIDS	See Kernel Installation and Distribution System
Local Registry	This is the local file of patients that have either passed the selection rules and therefore been added automatically or been added manually by a designated ICR supervisor.

Term or Acronym	Description
LOINC	Logical Observation Identifiers Names and Codes
M	**M** is a procedural, interpreted, multi-user, general-purpose programming language designed to build and control massive databases. It provides a simple abstraction that all data values are strings of characters, and that all data can be structured as multiple dimensional arrays. MUMPS data structures are sparse, using strings of characters as subscripts. **M** was formerly (and is still commonly) called MUMPS, for *Massachusetts General Hospital Utility Multiprogramming System*.
MUMPS	*See* M
Namespace	A logical partition on a physical device that contains all the artifacts for a complete M system, including globals, routines, and libraries. Each namespace is unique, but data can be shared between namespaces with proper addressing within the routines. In VistA, namespaces are usually dedicated to a particular function. The **ROR** namespace, for example, is designed for use by CCR.
National Case Registry	All sites running the ICR registry transmit their data to this central data registry.
Remote Procedure Call (RPC)	A type of protocol that allows one program to request a service from a program located on another computer network. Using RPC, a system developer need not develop specific procedures for the server. The client program sends a message to the server with appropriate arguments and the server returns a message containing the results of the program executed. In this case, the GUI client uses an RPC to log the user on to VistA. And to call up, and make changes to, data that resides on a **VistA** server. *See also* Remote Procedure Call (RPC) Broker
Remote Procedure Call (RPC) Broker	A piece of middleware software that allows programmers to make program calls from one computer to another, via a network. The RPC Broker establishes a common and consistent foundation for client/server applications being written under the VistA umbrella. The RPC Broker acts as a bridge connecting the client application front-end on the workstation (in this case, the Delphi Query Tool application) to the M –based data and business rules on the server. It serves as the communications medium for messaging between VistA client/server applications. Upon receipt, the message is decoded, the requested remote procedure call is activated, and the results are returned to the calling application. Thus, the RPC Broker helps bridge the gap between the traditionally proprietary VA software and other types of software. *See also* Remote Procedure Call (RPC)

Term or Acronym	Description
RPC	*See* Remote Procedure Call (RPC)
RPC Broker	*See* Remote Procedure Call Broker
Security Keys	Codes which define the characteristic(s), authorization(s), or privilege(s) of a specific user or a defined group of users. The VistA option file refers to the security key as a "lock." Only those individuals assigned that "lock" can use a particular VistA option or perform a specific task that is associated with that security key/lock.
Single Sign On	Single Sign On is the process that enables the secure access of disparate applications by a user through use of a single authenticated identifier and password.
Technical Services Project Repository (TSPR)	The TSPR is the central data repository and database for VA Health IT (VHIT) project information. *See* http://tspr.VistA.med.va.gov/tspr/default.htm
TSPR	*See* Technical Services Project Repository
User Interface	A user interface is the means by which people (the users) interact with a particular machine, device, computer program or other complex tool (the system). The user interface provides one or more means of: • Input, which allows the users to manipulate the system • Output, which allows the system to produce the effects of the users' manipulation The interface may be based strictly on text (as in the traditional "roll and scroll" IFCAP interface), or on both text and graphics. In computer science and human-computer interaction, the user interface (of a computer program) refers to the graphical, textual and auditory information the program presents to the user, and the control sequences (such as keystrokes with the computer keyboard and movements of the computer mouse) the user employs to control the program. *See also* Graphical User Interface
Vergence	Vergence® software from Sentillion provides a single, secure, efficient and safe point of access throughout the healthcare enterprise, for all types of caregivers and applications. Vergence unifies single sign-on, role-based application access, context management, strong authentication and centralized auditing capabilities into one fully integrated, out-of-the box clinical

Term or Acronym	Description
	workstation solution. *See* http://www.sentillion.com/solutions/datasheets/Vergence-Overview.pdf.
Veterans Health Information Systems and Technology Architecture (VistA)	VistA is a comprehensive, integrated health care information system composed of numerous software modules. *See* http://www.va.gov/VistA_monograph/docs/2008VistAHealtheVet_Monograph.pdf and http://www.virec.research.va.gov/DataSourcesName/VISTA/VISTA.htm.
Veterans Health Administration (VHA)	VHA administers the United States Veterans Healthcare System, whose mission is to serve the needs of America's veterans by providing primary care, specialized care, and related medical and social support services.
Veterans Integrated Service Network (VISN)	VHA organizes its local facilities into networks called VISNS (VA Integrated Service Networks). At the VISN level, VistA data from multiple local facilities may be combined into a data warehouse.
VHA	See Veterans Health Administration
VISN	See Veterans Integrated Service Networks
VistA	See Veterans Health Information System and Technology Architecture